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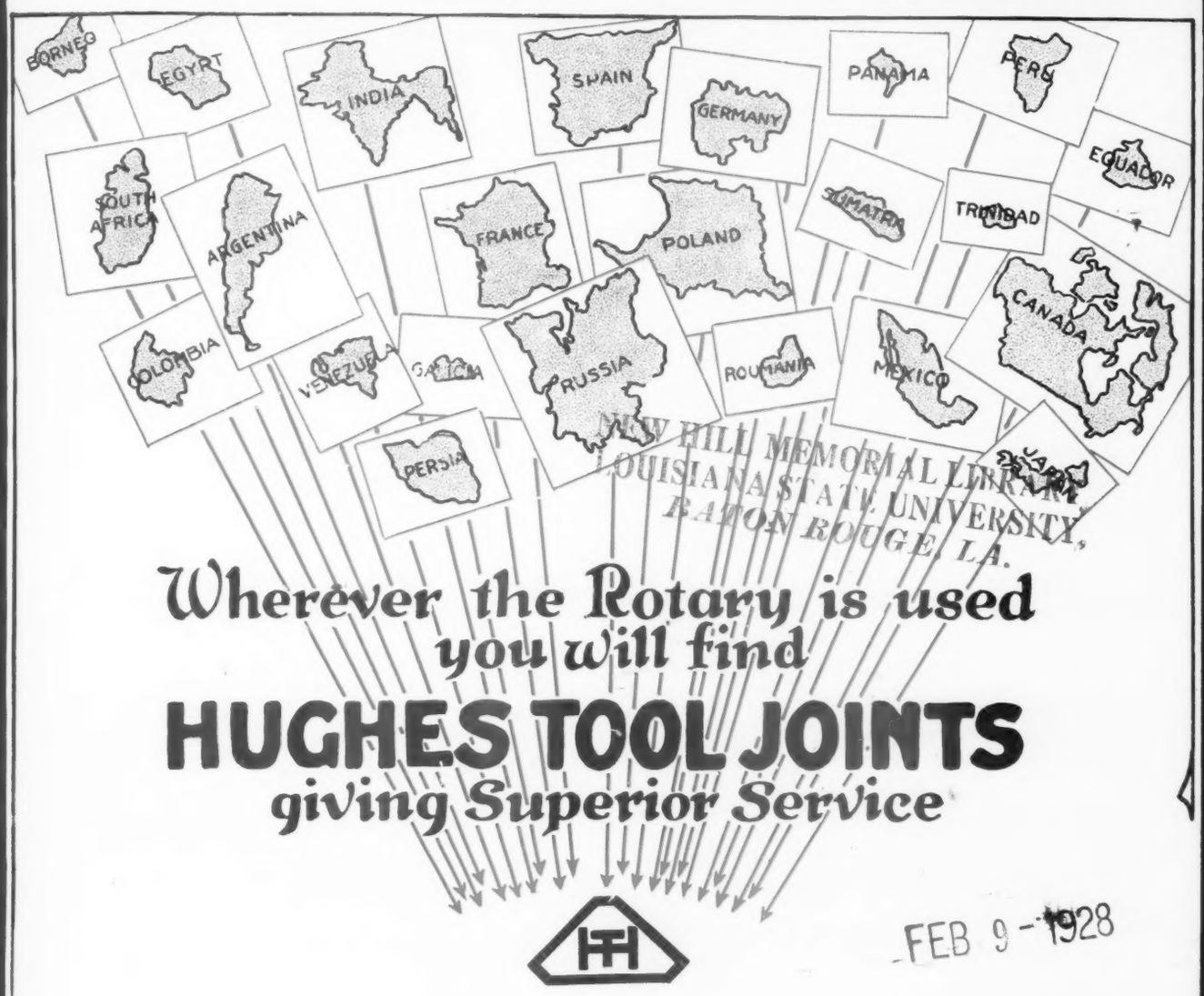
The OIL WEEKLY

Exclusively Devoted To The Production and Transportation of Oil and Gas

February 10, 1928 **Volume 48. No. 8**



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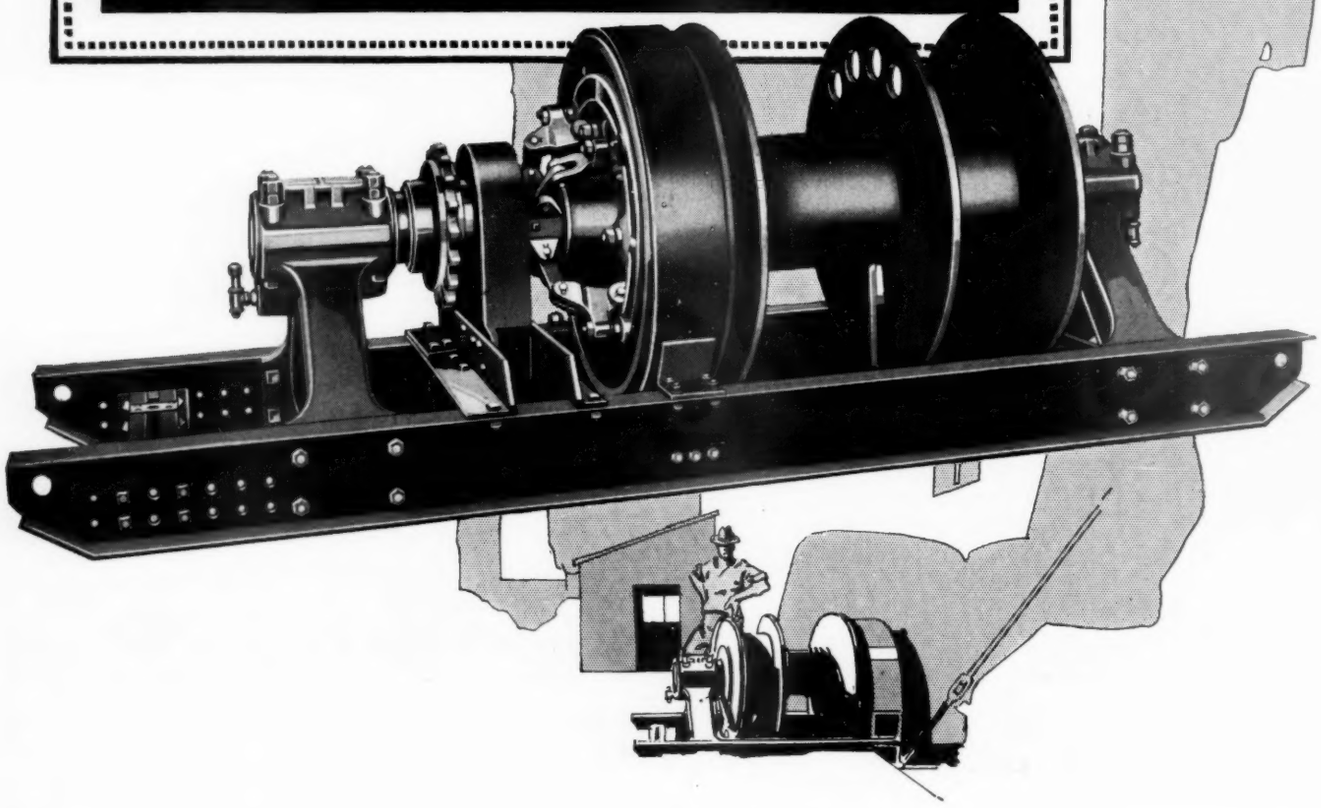

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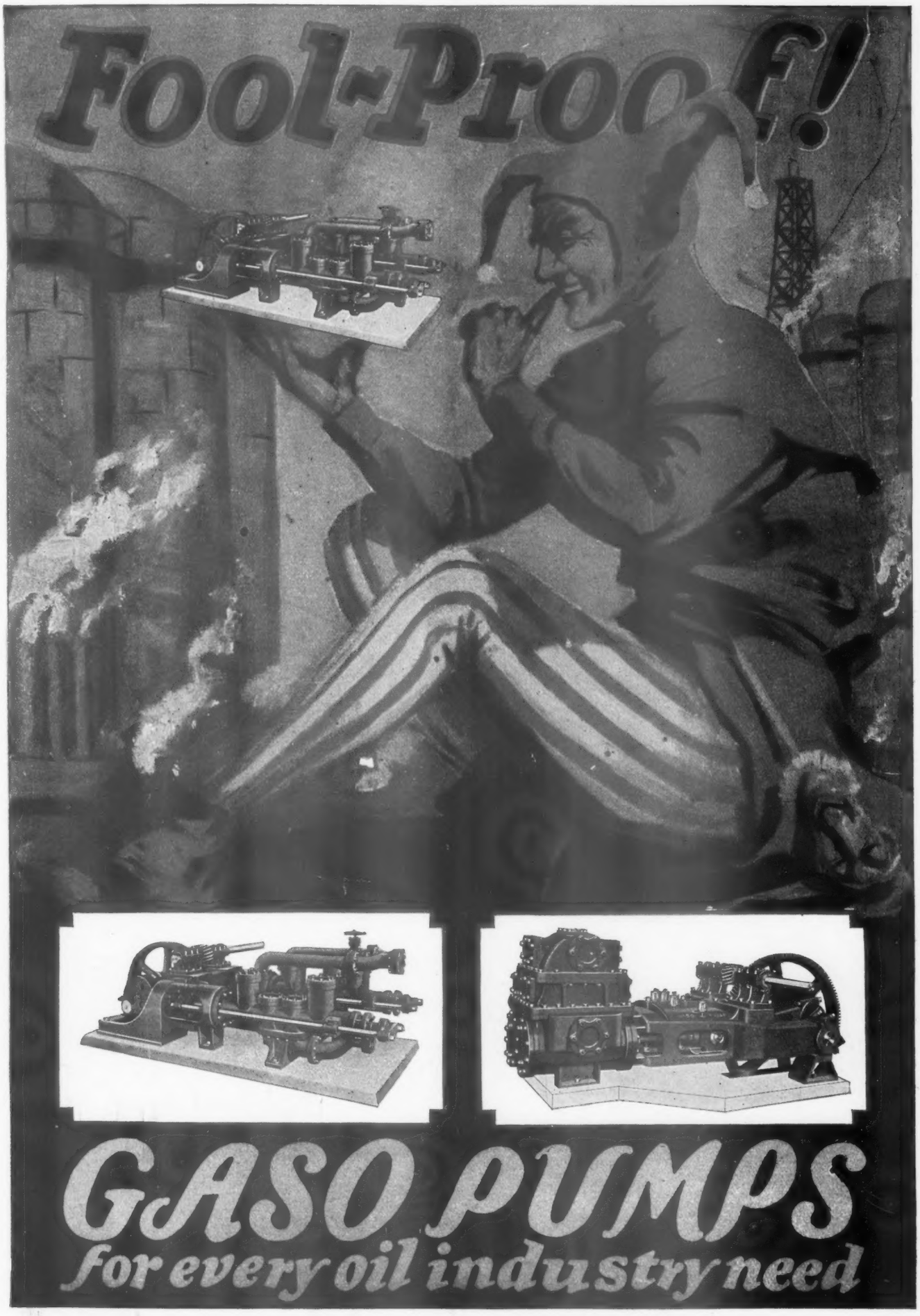

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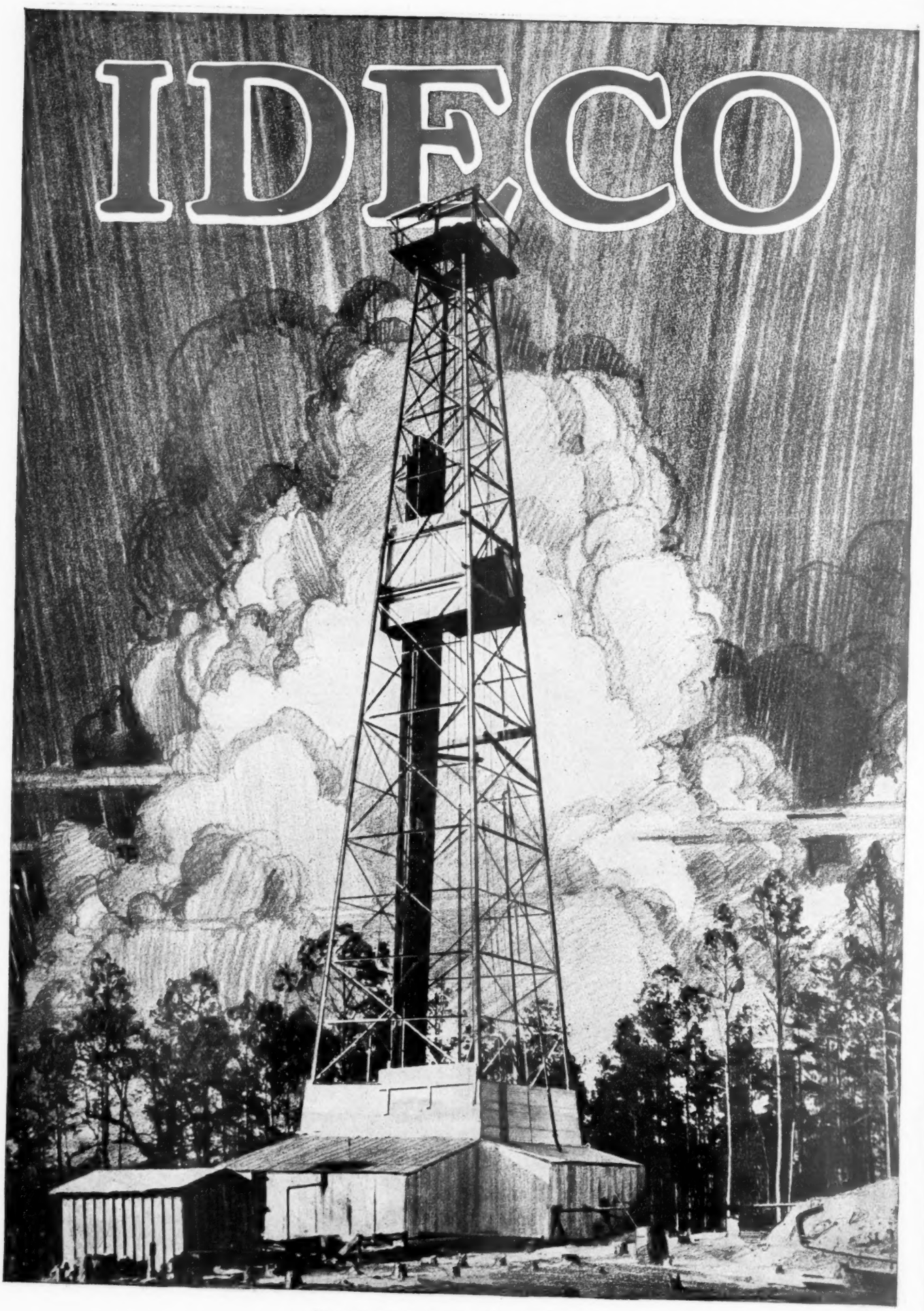

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The reason for IDECO stability

THE hands guiding the affairs of The International Derrick & Equipment Company are those of steel men. They know steel. Before IDECO made its use general in the oil industry these men knew structural steel, its possibilities and superiority. They had made steel for bridges—for skyscrapers . . . for towers . . . for many other purposes.

The business of IDECO has been built upon no hit or miss methods. IDECO'S officers and engineers can tell you exactly what you buy when you order IDECO Derricks, Rig Equipment or Structural Buildings. They have built a business which is as sound financially as it is structurally.

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Combines Lowest Operating Cost with ⅓ Less Fuel Cost~

The CLARK "Super 2" Compressor has won immediate and wide-spread recognition because it combines 2-cycle simplicity and operating economy with *fuel economy fully equal to that of a 4-cycle plant.*

Simply and powerfully designed, with few parts to demand attention and adjustment, the "Super 2" requires a smaller operating force than a 4-cycle installation.

The unprecedented fuel economy is attributable to our new, patented FUEL INJECTOR, which acts as a real super-charger, furnishing to the cylinder, after it is filled with air, the correct amount of gas under pressure. Because better mixing of air and gas is obtained, with no loss of gas into the exhaust, the "Super 2" operates on 1/3 *less gas* than the best 2-cycle engine with the usual suction type feed.

"Super 2" Compressors are now demonstrating their dependability and economy in a multitude of plants. The photograph shows CLARK "Super 2" Twin Compressors in the engine room of Roeser & Pendleton, Inc., and Marland Refining Company Gasoline Plant Number 1, at Shackelford, Texas.

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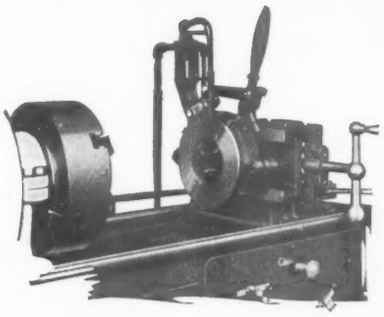
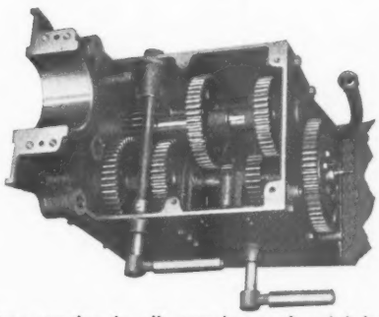
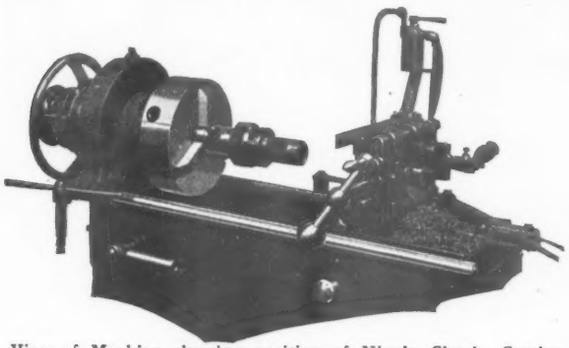


Quick Opening Die Head

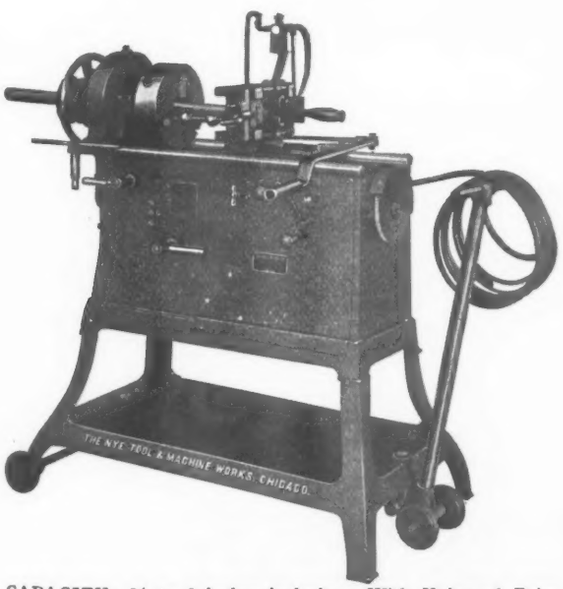
The New Nye Power Machine



Gear Case running in oil, assuring perfect lubrication



View of Machine showing position of Nipple Chuck, Cutting Off Tool and Reamer



CAPACITY: ¼ to 2 inches inclusive. With Universal Drive Shaft will operate stocks up to 12 inches
Note Grinding attachment—2600 R.P.M.

THE old gentleman who resigned from the Patent Office in 1880 because, as he said, everything had been invented, had nothing on most of us.

There are times when we all begin to feel that mechanical equipment is as perfect as man can make it.

Take Power Threading Machines, for instance. In spite of thousands of dollars lost each year in old type equipment, production men are satisfied—until, of course, someone comes along and shows them where 500 per cent can be saved.

Making production men dissatisfied with their present equipment is our business. Here is a new type of Bolshevism that pays all around.

Study closely the points of interest on the new Nye Power Threading Machine, and you will note why we can make production men dissatisfied.

All gear driven, no belt or chain drives to stretch. Spindle gear and speed change gears are enclosed in case and running in oil. All bearings Self Oiling.

Automatic pump,—continuous flow of threading oil from four gallon reservoir.

Full floating roller and wheel cutting off device and reamer attached.

Chuck with special patented split jaws which insures holding pipe without exerting excessive pressure when tightening jaws.

Die head floats in cross slide of carriage attached to bed of machine.

Equipped with either solid dies or Adjustable quick opening die head ½ to 2 inch, one horse power A. C. or D. C. motor, guaranteed to drive stocks threading up to 12-inch pipe with universal shaft. Operates from 110 to 220 volt line circuit.

What a relief it would be to you to take this NEW POWER MACHINE to your next job and know that you do not have to shorten your life by worry and physical exertion and cut your cost 500 per cent.

The NYE POWER MACHINE makes this possible. It brings profits to the far sighted contractor.

Investigate all other machines then compare. Your machine is waiting for you. Won't you write us for it today?

HARRY G. NYE.

Universal Shaft operating stocks up to 12 inches

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That's what another Supt. of Production for a large company has just written us.

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A quarter of a century's experience in designing and manufacturing oil and water well screens is built into this screen

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WESTCOTT Pipe Line Valves are now available from stock in 18″ and 20″ sizes. The photograph shows one of a recent shipment of 16″ air-operated WESTCOTTS. Specializing in valves for the Oil Industry, WESTCOTT is now recognized as the leading maker of oil and gas pipe line valves.

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Greater efficiency and more satisfactory results invariably mark the use of these devices when used together in cementing wells by the dump bailer method.

The Baker Dump Bailer has no chains, latches, springs or plunger bottom to hang up or get out of order. It never fails to dump and repeatedly has been pronounced the best bailer of this type in oil country service.

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The Baker Cement Plug is a simple, practical and safe device for cementing where the dump bailer method is used. It does not require rigging up the pumps, nor the employment of cementing experts. It seals the bottom of the casing, and the displacement when lowering forces all the cement out into the formation, and up around the casing.

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Volume 48, No. 8 February 10, 1928

The OIL WEEKLY

Edited Weekly at Houston, Texas · SPENCER W. ROBINSON, Editor

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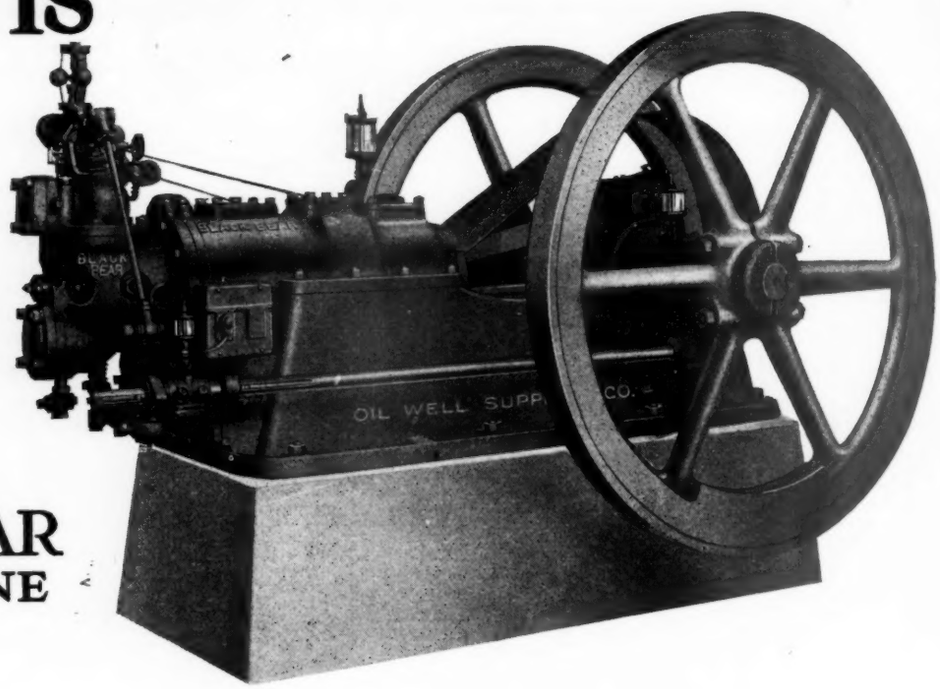

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A Good Investment

Ask any Black Bear owner and he will tell you that the Black Bear is the greatest, best and cheapest-per-horse-power-developed engine the oil field has ever known.

When gas is emitted from a well or wells in such small quantity that it does not justify saving it, this amount is usually sufficient to operate a Black Bear efficiently. Being of the 4-cycle type, the fuel consumption is less than 9 cubic feet per brake horse power hour.

Due to its construction, both the mechanical and the thermal efficiencies of the Black Bear are exceptionally high. It is of the trunk piston type with valves located in the head and mechanically operated. The explosions take place directly in front of the piston and not in a separate combustion chamber. The cooling system is exceptionally efficient, enabling the engine to operate at the most favorable temperture. An auxiliary exhaust relieves the work to be done by the engine by reducing the pressure against the exhaust valves. Crank shaft bearings are ring oiled, and the wrist pin is lubricated by a centrifugal oiler. Fly wheels are well balanced; in fact, the quality and workmanship of the Black Bear throughout is unequalled by any other oil field gas engine.

Made in 25, 35, and 40 H.P. Furnished to operate on either gas or gasoline. Also with enclosed crank case, if desired.

Inquire at any of our 100 Branches

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Say you saw it in The OIL WEEKLY

United States Production Makes Slight Gain

By KENT RIDLEY

SUBSTANTIAL increases in Texas and the Rocky Mountain region and a slight increase in California brought the daily average production last week 11,050 barrels above that of the previous week, which overcomes approximately half of the loss recorded two weeks ago.

The estimate for the week is 2,366,300 barrels, as compared with 2,355,250 barrels the week previous.

Oklahoma declined 2550 barrels to 667,700, the percentage of loss being so small as to be scarcely noticed in any district, although the fields in the Greater Seminole area followed their usual ups and downs. Kansas figures were unchanged, although there were slight fluctuations in individual fields.

A gain of 10,000 barrels in Texas outside of the Gulf Coast came from increases in West Texas and the Panhandle. In the latter area Gray County was up approximately 5000 barrels, while losses in other fields of that area reduced the gain a little. In West Texas a gain of 8850 barrels was accounted for largely by Crane-Upton Counties, which gained 8500 barrels, while Pecos County was off about 5000 barrels, which was offset by a gain of about the same amount in Winkler County. The Gulf Coast was down 2250 barrels.

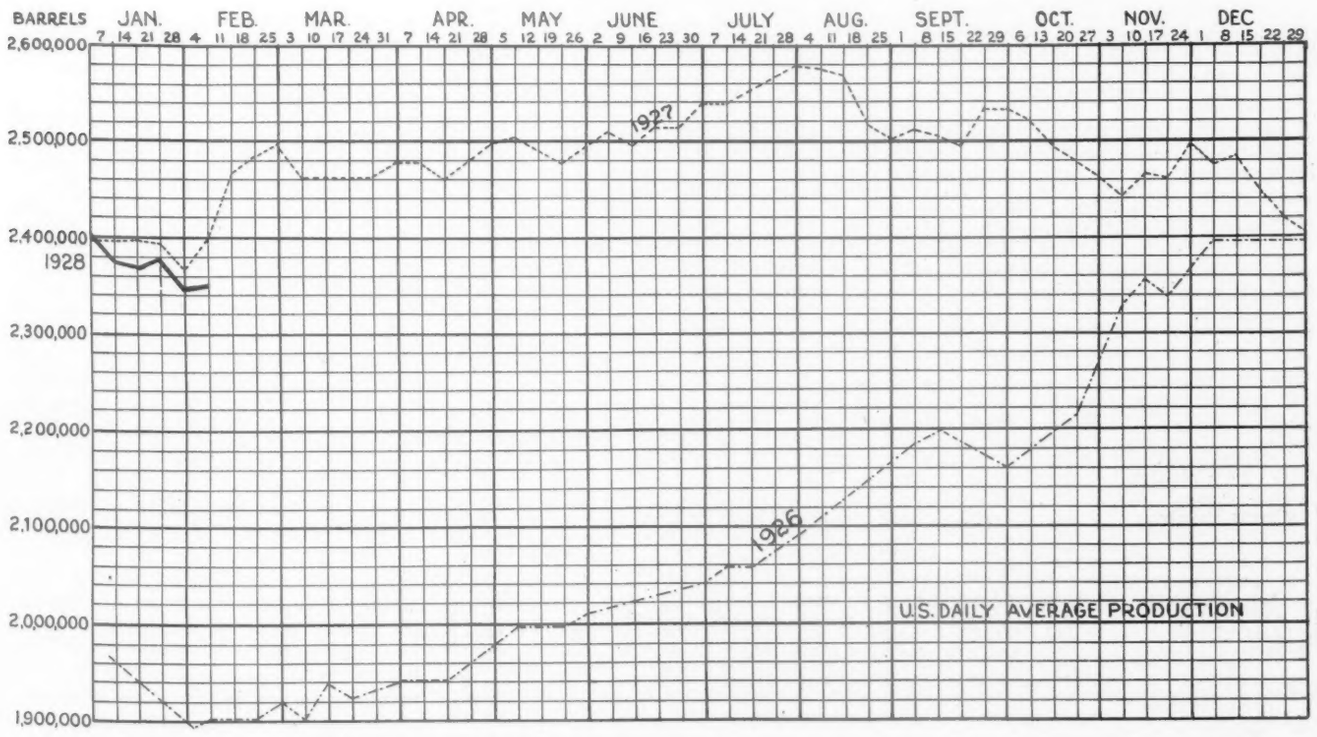
The Salt Creek field in Wyoming increased to 43,950 barrels from 37,800, and was the principal influence in a gain of 6800 barrels in the total for the Rocky Mountain area.

Eastern States declined 1500 barrels, and California was up 800 barrels.

Permits for new wells as listed in the current report shows 49 less than for the previous week, Kansas, Oklahoma and Texas each having fewer permits. Cumulative figures, as shown in the table appearing on page 59 of this issue, show that current field operations are barely 50 per cent of the volume of a year ago.

Summary of completions in the United States shows that while there were 10 less new wells reported, 14 more than last week were producers, and new oil added amounted to only 36,952, a loss of 58,858 barrels as compared with the previous period.

UNITED STATES CRUDE PRODUCTION TREND



Details of United States Production Estimates, Page 42

Gasoline Order Strengthens Refined Market

Gulf Refining Company places order which relieves North Texas plants of some surplus; crude movement brightens Oklahoma outlook

FORT WORTH, TEXAS — Renewed buying by Gulf Refining Company in the North Texas Refining centers has placed the gasoline market in this section of the Mid-Continent on a firm basis, and most of the plants are booked up on orders for U. S. motor gasoline over the balance of February. Gulf entered the North Texas market shortly after the middle of January, when plant owners were in dire need of shipping instructions, with U. S. motor gasoline quoted at five and one-half cents per gallon, or a shade lower and took on about 400 cars. This buying caused a price increase before the original orders were covered, and new buying by Gulf has been at six cents. Gulf's total gasoline purchases in the North Texas district since the placing of the first order last month are estimated as being in excess of 600 cars, with an average of 8000 gallons capacity.

The latest gasoline purchase orders handed out by Gulf have been restricted to plants that can take on 50 or more cars, as an inspector is sent by Gulf to each plant to sample the product before movement begins, thus assuring required specifications. Gulf has also entered the North Texas market for a quantity of kerosene, with the result that the prevailing price on this product has recuperated a part of its loss, and is firm at about four and one-half cents per gallon. This buying by Gulf is for delivery over the balance of February to its bulk stations within the State, and the volume of purchases has had a tendency to check further breaks in the tank wagon price structure in the North Texas district, thus laying the foundation for a general improvement in the refined market situation as the spring buying and increased gasoline consuming period approaches.

Another cut in crude prices on a portion of the West Texas production was posted effective February 1 by the Coltex Refining Company, which is the principal buyer of oil produced in Mitchell and Howard Counties. The price was reduced from 93 to 80 cents. This concern is not a purchaser of the low gravity sulphur contaminated crude produced from deep lime pay in Howard County, and when two offsets were drilled in against the Dora Roberts discovery well a verbal shutdown agreement was made late last week by the producers involved, with Magnolia Petroleum Company and Sam Sloan of the Owen-Sloan Oil Company taking the initiative in getting the producers to agree to shut in their future completions after flowing same for 24 hours. However, Magnolia expects to provide facilities later to take all, or part of this oil for purchase.

Additional pipe line outlets for the Hendrick field, which is the largest oil producing unit in the West Texas district with prospects of big gains in daily output for some weeks ahead, are nearing completion. Both Texon Oil & Land Company and the Landreth Production Corporation are nearing completion on their six-inch lines extending from field tank farms to car racks in Ward County, and Humble Pipe Line Company expects to have its combination eight and ten-inch line extending from Hendrick field to McCamey trunk line station completed within two weeks. Humble will probably become a buyer of outside oil in the Hendrick field to a limited extent when this outlet is completed, although potential production held in the field by by Humble Oil & Refining Company will permit heavy daily shipments.

Magnolia Petroleum Company was scheduled to place contract early this week for 10 80,000-barrel steel tanks to be added to its fast growing tank farm in the Hendrick field to begin buying a limited amount of crude from other producers. Magnolia's holdings in the Hendrick field will soon be drilled up. Atlantic Pipe Line Company, transportation subsidiary of the Atlantic Oil Producing Company, has about finished testing out its 10-inch welded line, which extends from Hendrick field to tank farm at Midland, a distance of about 71 miles, and has arranged to handle some oil for Pure Oil Company as far as Midland. Pure has moved in four 55,000-barrel steel tanks knocked down in the Mexia district to the Hendrick field for immediate erection, since its West Texas porperty sale to The Texas Company failed to go through, although the deal hung fire for about six weeks.

TULSA—More outlets for Seminole, and incidentally other Oklahoma oils, to further alleviate the situation that is gradually becoming brighter with the production trend downward are tending to strengthen the foundation for better crude conditions in the Mid-Continent. Considerable line capacity and tank car facilities have become idle in the Seminole territory with the decrease undergone in production within the past few months.

Facilities for disposal of 200,000 barrels monthly are had by Indian Territory Illuminating Oil Company at Galveston, where it is moving Seminole crude to European ports twice monthly. This crude is being handled through two 55,000-barrel tanks of which I. T. I. O. has access. Carter Oil Company is shipping between 6000 and 7000 barrels of Seminole crude daily by tank car to the Imperial Oils, Ltd., Montreal, Canada, another subsidiary of the Standard Oil Company of New Jersey. Champlin Refining Company's six-inch 100-mile line from Seminole to Watchorn, where it will connect with the company's main running to Enid, is expected to be taking Seminole oil early in the spring.

The increase in activity at Burbank is the chief source of a gain registered in Oklahoma field operations near the close of January. While a decrease in activity has been underway throughout the latter part of 1927, there was a gain of five operations in the state during the week ending January 25. This increase comes in the face of a continued decline of operations in Greater Seminole's five proven field.

DETAILS ON CRITICAL FIELDS

Pool—	Oil Wells Completed	Total Initial Production	Initial Per Well	No. Producing Wells	Daily Production Barrels	Daily Production Per Well	Rigs Up	Wells Drilling
PANHANDLE								
Hutchinson County	1,089	543,845	499	981	49,090	50	6	19
Gray County	189	81,385	431	181	23,050	127	14	62
Carson County	177	58,695	332	150	7,370	49	2	4
Wheeler County	42	14,230	339	34	1,070	31	1	11
Totals	1,497	698,155	466	1,346	80,580	60	23	96
WEST TEXAS—								
Church & Fields	179	200,885	1,122	176	60,050	341	2	5
Gulf-McElroy	57	51,410	902	57	18,195	319	..	2
Hendrick	51	171,775	3,368	67	93,130	1,390*	25	93
Yates	144	912,400	6,336	148	52,255	353*	8	32
Totals	431	1,336,470	3,101	448	223,630	499	35	132
OKLAHOMA—								
Seminole	1,239	1,539,846	1,242	1,286	323,570	297	14	94

*Production partially pinched.

Committee of Nine Recommends Co-Operative Law

Report to Oil Conservation Board gives suggested act to permit joint action in curbing over-production

WASHINGTON, D. C.—Enactment of federal legislation unequivocally declaring that agreements for the co-operative development and operation of single pools are not in violation of the federal anti-trust laws, and permitting, under suitable safeguards, the making, in times of overproduction, of agreements between oil producers for the curtailment of production, is recommended in a report submitted to Secretary of the Interior Work, as chairman of the Federal Oil Conservation Board, by the "Committee of Nine" on January 28, which has just been made public.

This recommendation is accompanied by a suggestion that similar legislation be enacted by the various oil-producing States.

Other recommendations of the committee call for immediate further study into the matter of the waste of natural gas, in order that legislation may be formulated which will forbid such waste as fully as may be done without working injustice and unreasonable hardship; legislation by congress granting the Secretary of the Interior authority to join and to permit lessees from the government to join in agreements for the co-operative development and operation of single pools; and the passage also by congress of the legislation heretofore recommended by the Secretary of the Interior, removing the existing mandate upon him to offer for lease annually, regardless of conditions, 100,000 acres of Osage Indian lands.

The report of the committee was unanimous, being signed by Henry M. Bates, James A. Veasey, J. Edgar Pew, Abram F. Myers, Walter F. Brown, Thomas A. O'Donnell, E. C. Finney, W. S. Farish and Warren Olney, Jr. It was accompanied by a tentative draft of the legislation recommended.

COMMITTEE OF NINE'S REPORT

WE take it that true conservation does not mean the withholding from present use of the nation's natural resources. It does mean that those resources should be drawn upon without waste and in orderly response to the economic needs of the country. We have devoted attention to ascertaining to what extent and in what manner waste occurs in the production and use of oil, and to how and why the production of oil is not in orderly response to the country's economic demand for it.

So far as concerns waste of oil, the evidence is conclusive that there is no substantial waste after the oil is once produced. When it is once out of the ground it is practically all put to beneficial uses, the character of the uses and the amount consumed by each being determined by economic factors. The only exception to this is at times of overproduction, when excessive quantities of oil are carried in storage. There is an unavoidable loss of oil at such times due to the dissipation of the more volatile elements. There is also a decided economic loss incident to the storage. There exists possibly something of a public impression that there is a considerable loss of oil through the failure at times to capture and confine the oil as it comes from the well, particularly from a gusher well. This impression, if it exists, is incorrect. The amount of oil so lost is so small as to be negligible for all practical purposes.

On the other hand, there is what for practical purposes is a distinct waste in the process of getting the oil out of the ground. It consists in the failure to recover from the sands in which the oil occurs the full proportion of the oil content that is susceptible of recovery by the most efficient and yet practical methods of production. The proportion of the oil recovered in actual competitive practice is in the judgment of competent engineers as low as 20 per cent in many cases. The balance of the oil content which still remains in the sands, is in one sense not wasted. It remains in the sands and is not lost in the sense that it is destroyed or dissipated, but so far as its recovery for economic uses is concerned, it is lost, since there is no method known by which it can be recovered at a reasonable cost. There is a distinct difference of opinion as to the extent to which the recoverable proportion of the oil content might be increased in practical operation. In the opinion of some, it is not great, but the distinct weight of opinion is that it is, some opinions being that the increase might well be equal to the amount of the present recovery.

As to the production of oil in orderly response to the economic needs of the nation, the fact is that in a very marked degree production has had no relation to economic needs. The history of the oil industry has been one of recurring temporary periods of high or flush production, when the quantity of oil produced has been out of all proportion to the demand followed by corresponding periods of low production when the supply has not been sufficient to meet the legitimate demands for the extended uses built up during the preceding period of over-supply. The resulting industrial disorganization and the forcing of oil into uses for which it is least valuable and to which it would not be put if the production were equalized and were responsive to the demands, means that there has been an economic waste. In the nature of things the extent of this waste can not be accurately estimated, but there is no doubt that it is very extensive.

The primary and most important cause, both of the failure to recover the full recoverable proportion of the oil content and of production at recurring periods out of all proportion to the demand, is not far to seek and is the same. It consists in the law governing the right of the owner of land to recover oil from it. The law is that the owner of land has the right to recover from his land all the oil that can be produced therefrom, regardless of whether that oil was originally in place in his ground or has been caused to flow from the ground of others by his action in opening and operating a well on his property. There is no property, in the strict sense, in the oil until it is recovered any more than there is in underground water, and the oil belongs to him who first gets it. The result is that when an oil field is once opened, it is a race between all the owners in the field to recover all each can. It is a race in which they must take part, willy-nilly, or else lose what otherwise they might obtain. It is a race which can be avoided only by the joint action of every one in the field.

The intensity of the race is increased by the function which natural gas plays in the process of production. That function is the subject of a most illuminating report by the Technical Sub-Committee of the American Petroleum Institute Gas Conservation Committee, made up of leading petroleum engineers of the country. It is so valuable a contribution that we append this report as Appendix "B." Among other things, the report says:

"The data show conclusively that the conservation and efficient utilization of gas are of paramount importance in the conservation and economical production of oil. Gas dissolved in oil makes the oil more fluid, and more capable of movement through the pore spaces of the res-

ervoir rock to the well, the energy stored in the same gas is the chief force behind that movement. The more gas the easier the oil moves and the greater the force available to move it. To dissipate gas from an oil sand is to lessen the propulsive force and increase the need for it. The energy and solution values of oil field gas are of tremendous importance. The proper utilization of gas results in greater and more orderly oil recovery at low cost. The data show that the way to use gas to the best advantage is to use it in its original state, and that the conditions in a sand, once destroyed, can never be completely restored."

Again the report says:

"The data show finally that many, probably most, of the best methods for gas utilization can be practiced advantageously only when they can be applied systematically to a whole field; that competitive drilling in individual fields almost inevitably leads to gas waste and lessened oil production; and that either complete co-operation or unit operation is the ideal operating condition for the conservation of both gas and oil."

Since gas is the most important factor in detaching the oil from the sands and bringing it to the well, and in case of flowing wells to the surface and since also the oil content is common to the whole field—using *field* in the sense of a single deposit or pool—the release of gas through one well affects all other wells in the same field.

Each operator, therefore, for his own protection, must get his wells into the oil-bearing strata at the earliest possible moment, and having done so, keep on producing from them to capacity or else lose to his neighbors the advantage of the common gas content.

The result is twofold unless all the owners in the field unite in a common plan for the development and operation of the field. The first is that the gas content is largely dissipated and lost for the benefit of the few wells which first tapped the oil-bearing strata and for the field as a whole the recoverable proportion of the oil content seriously reduced. Herein lies by far the most important cause of the failure in actual practice to recover the full recoverable proportion of the oil content.

The second result is that when once a field is opened it is not possible for any owner or operator in it to do anything but drive on with all speed to secure from his land all the oil possible at the earliest possible moment. He can not wait because of market conditions or anything else. When a prolific field is discovered, and particularly when several prolific fields are discovered at about the same time, there is no way as a rule of holding back their production, and a flood of oil is produced, regardless of economic demand for it, and frequently far in excess of that demand.

Such being the primary and most important cause of the waste and the uneconomic production of oil, there arises the question of a remedy for it. One remedy suggested is a change in the fundamental law governing the right of recovery. It is suggested that the law be changed so that each land owner be entitled to all the oil naturally in place under his land and no more, so that he may not drain oil from under his neighbor's land, and his neighbor may not drain oil from under his. Putting aside the serious constitutional objections to any such change in a fundamental law of property which immediately suggest themselves, we regard this proposed remedy as wholly impractical. It is not possible to determine with any reasonable certainty what oil comes from one man's land and what comes from his neighbor's. No one could, with any security whatever, produce oil from his property if his right were confined to the oil naturally in place under it unless his property were so large that his wells could all be placed so far from his neighbor's lines as to foreclose the possibility of drainage from beyond those lines. The proposed change in the law would, in our judgment, produce such a condition of insecurity and give rise to such extensive and interminable litigation as to prevent necessary and proper development. In our judgment, the only practical law governing the right to recover oil is that which now exists and which has been developed to meet the necessities of the case. Whatever remedy may be found must be found upon the basis of that law and adapted to meet the conditions caused by it.

Meeting these conditions, one thing which immediately suggests itself is the co-operative development of any single field by its owners and operators. By single field we mean a single pool or deposit wherein the operations of one owner affect his neighbors. By such co-operative development, the most important result can be had of conserving the gas content and utilizing it to the fullest possible extent and for the benefit of the whole field. The doing of this should increase greatly the total actual recovery from the field. So far as preventing the present waste in failing to recover the full recoverable proportion of the oil content of the oil-bearing sands, we regard the method of co-operative development and production of single fields as the most effective remedy.

The difficulty lies in bringing this about. Theoretically it can be brought about either by voluntary agreement of all the owners or operators in the particular field or, disregading possible constitutional difficulties, by the coercive power of the State. There are, however, very great practical difficulties in the way of the direct application of the State's coercive power, as for example, by the formation of State instrumentalities such as oil districts analogous to irrigation districts, on which would be conferred the power to impose a common plan of development and operation on a whole field. No two fields are alike, and the plan for common development and operation, which would be best for one field and most equitable as between those interested in it, might not and probably would not be applicable to another field. No uniform plan would be possible, and it would be exceedingly difficult to provide the machinery whereby through the power of the State a plan for common development and production should be imposed upon a field without the greatest danger of the plan miscarrying in its object and doing the greatest injustice to some of those upon whom it was imposed. For the present, at any rate, we do not believe that any such drastic and difficult expedient should be attempted as that of imposing on the owners and operators of a field, or even a small minority of them, some plan to which they do not all agree. The matter is one to be brought about by voluntary agreement, if possible. In bringing it about, the State should remove any unnecessary obstacles in the way and bring to bear what pressure it reasonably can. This brings us to our first recommendation.

One great difficulty which has stood in the way of voluntary agreements for co-operative development and operation is the fear that such agreemets may be held to be in violation of the so-called anti-trust laws, both federal and state. An almost necessary feature of any co-operative plan is the control of production, and because of this feature the fear has arisen. We do not believe the fear to be well founded. It seems clear to us that any agreement for the co-operative development and operation of a single pool even though it involve the control or curtailment of production from that pool, is not a contract or agreement in violation of any anti-trust law, either state or federal. Nevertheless, the fear exists and has been a serious deterrent to the making of co-operative agreements. It should be removed. We, therefore, recommend that both Congress and the legislatures of the oil producing States be asked to pass legislation which will unequivocally remove such agreements from the purview of laws forbidding restraints on commerce. We append hereto, as Appendix "A," a form of an act by Congress, the second section of which will, we believe, do this. The legislation to be passed by the States should be in the same form, with such possible variations in exact wording as may be appropriate because of the differences in the anti-trust laws of the different States.

There is another particular in which we would recommend legislation affecting the anti-trust laws. No measures short of drastic limitations on the production of oil, which would be distinctly against the public interest, can be relied upon to wholly prevent periods of overproduction. The occurrence of such periods is inherent in the circumstances in which the oil is found and under which it must be produced. Their injurious effect, however, can be diminished by permitting at such times the curtailment of drilling and production by voluntary agreements between the oil producers. At the present time such agreements, no matter what the necessity for them, would be in violation of the anti-trust laws of some, if not all, of the oil producing States, and under some circumstances in violation of the laws of Congress prohibiting restraints on interstate and foreign commerce. It is distinctly in the public interest that agreements between oil producers for the curtailment of drilling and production be permitted at times when seri-

ous operproduction exists or is immediately threatened. It is a permission that should be confined to those times as an emergency expedient, so to speak, should end when the emergency ends, and should in general be carefully safeguarded. All this can be accomplished by legislation, providing (a) that during a period of overproduction or in immediate anticipation of one, agreements curtailing the development and production of oil shall not be in violation of the laws, state or federal, forbidding restraints on competition; (b) that a period of overproduction permitting of such agreements be deemed to exist only when so declared by suitable governmental authority, and be deemed to end when that fact is similarly declared; (c) that all such agreements be subject to supervision by suitable governmental authority, be filed with it as a condition of their legality, and do not become effective until they are so filed; and (d) that the supervising authority has the right to abrogate any agreement filed which for any reason it judges not to be in the public interest. As the granting of permission for such agreements would be a conservation measure, and as, also, it might be a matter of distinct importance, it would seem not unfitting that the governmental authority which might declare when such agreements could be made and the period for which they should be effective and have supervision over them, should be the Federal Oil Conservation Board itself. The third section of the form of an act by Congress, appended hereto as Appendix "A," has been prepared by us for the accomplishment of this purpose. It should be followed by legislation by the oil producing States, granting as to their laws a similar permission when such permission is given by federal law.

Closely connected with the matter of co-operative development and operation of oil pools is that of conserving the gas content. The waste of gas in actual practice has been great, both in the failure to maintain the gas pressure for oil producing purposes, and in the failure to put the gas to the valuable economic uses of which it is capable. Enormous quantities of gas have been simply wasted into the open air or burned. We have given particular consideration to this phase of the conservation problem. We are agreed that in general the waste of gas should be forbidden by law. We are likewise agreed that suitable legislation to this end is the most important affirmative step to compel conservation that can be taken. Such legislation, if properly devised, will, we believe, not only prevent waste existing at the present time, but will have a decided effect in inducing agreements for the co-operative development and operation of oil fields, and such co-operative development and operation constitutes, we believe, the most important means of fully utilizing and conserving in the true sense our oil resources.

But we are unable for the present to determine just the form that such legislation should take. Ill-advised legislation, no matter how well intended, might do great injury and great injustice; for example, we doubt exceedingly the wisdom of legislation which would simply forbid without any exception the escape of any gas not put to beneficial use after leaving the well. Conditions in the various fields differ so greatly and development has proceeded so far under present practices, that an inflexible rule such as that just mentioned might well mean that some fields would have to be shut down. Any measure compelling conservation will affect some interests adversely, and the mere fact that it does so is not a sufficient reason for not adopting it. But if the measure is too drastic as applied to existing conditions and is so harsh as to work grave injustice, it defeats itself in actual operation and runs the danger at least of being held to be unconstitutional.

The legislature furthermore is legislation which must be adopted by the States. In our judgment, legislation regulating or forbidding the waste of natural gas is primarily within the police powers of the individual States and at least under present conditions not within the powers of the federal government.

The preparation of proper legislation respecting the waste of gas is one that requires a study, both of present existing conditions and of the existing laws of the oil-producing States. That study, we have not been able to make to a sufficient extent to satisfy us as to the exact nature of the legislation which should be recommended. So far as this particular point is concerned, we repeat our statement that legislation forbidding, as a general rule, the waste of gas is vitally necessary, and we recommend that further study be given in the immediate future to the form such legislation should take, and that when that study has been completed, definite recommendations on the subject be made to the oil-producing States. The legislatures of these States will not meet in regular session until next year, so that there is time for such study before action can be had. We have thought it well, however, to make our report without waiting for the study required on this particular point, as Congress is in session and there is an immediate need for action by it in the particulars we have already mentioned and the further particulars to which we will next refer.

Committee of Nine's Proposed Act

AN ACT—To promote conservation of petroleum and natural gas, to avoid waste thereof, and to encourage the establishment, and maintenance of underground reserves of such minerals, and for these ends to authorize certain agreements.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the term "person" or "persons" as used in this act shall include individuals, partnerships, associations and corporations interested in oil or gas desposits, as owners, lessors, lessees, royalty owners or otherwise. The term "oil and gas pool" as used in this act shall mean that area embracing the holdings of two or more persons containing oil or gas or both that is concentrated in a single geological structure. The term "cooperative development and operation" shall mean and include any agreed plan for the development and operation of a pool, as above defined, in such manner as to avoid wasteful methods of development and production, and cause as efficient and complete a recovery as practicable.

Sec. 2. No agreement by two or more persons for the cooperative development and operation of an oil and gas pool shall be deemed in violation of any of the acts of Congress forbidding monopolies or agreements in restraint of interstate commerce.

Sec. 3. Agreements between oil producers for the curtailment of the drilling of oil wells and of the production of oil during periods of overproduction, as such periods are determined and declared as hereinafter provided, shall, when made in compliance with the conditions hereinafter provided, be deemed not in violation of any act of Congress forbidding monopolies or agreements in restraint of interstate or foreign commerce. No period of overproduction shall be deemed to exist, for the purposes of this act, unless and until the same has been publicly declared to exist by the Federal Oil Conservation Board, consisting of the Secretary of the Interior, the Secretary of War, the Secretary of the Navy, and the Secretary of Commerce, nor shall any such period be deemed to continue after said Board has publicly declared the same to be ended. Said Board is authorized to investigate and ascertain from time to time whether a state of overproduction of oil exists within the United States, and the district or districts wherein it exists, and if in its judgment such state does exist, to declare publicly, in a manner to be prescribed by the Board, the existence of such state and the district or districts wherein it exists, and in similar fashion to determine and declare that such state is at end.

Every such agreement shall comply with the following conditions:

(a)—It shall be in writing and be filed with the Federal Oil Conservation Board.

(b)—It shall, by its terms, expressly provide (1) that it shall not be operative until it has been filed with said Board; (2) that it shall not be operative, except during a period or periods of overproduction, as the same are determined and declared by said Board, and only within the district or districts within which a state of overproduction is so declared to exist, and

(c)—That it is subject to disapproval by said Board at any time on the ground that it is not in the public interest, and upon such disapproval and notification thereof to the parties, in such manner as may be prescribed by the Board, shall at once cease to be operative.

The Federal Oil Conservation Board is authorized to prescribe necessary and proper rules and regulations and to do any and all things necessary to carry out and accomplish the purposes of this act.

Public and Indian Lands

The production of petroleum from public lands, naval reserves, and Indian lands during the year 1926 constituted about 10.5 per cent of the total production of the United States. It will be seen that this production is but a small portion of the total. Nevertheless, what has been said in this report with respect to conservation and the necessity for better methods of development and recovery is equally applicable to the oil and gas deposits of the public domain and Indian lands.

Prospecting permits for discovery of

oil and gas, and leases for known oil and gas deposits on the public domain in the United States and Alaska, are granted under the act of February 25, 1920 (41 Stat., 437). Under that act, the Secretary of the Interior has authority to prescribe rules and regulations governing the drilling of leased areas and to prevent waste of oil or gas. The committee is advised that under this authority during the present period of overproduction, the Secretary of the Interior, on the application of lessees, has shut in more than 50 per cent of the possible production from existing wells on the public domain, and has also relieved from the necessity of drilling additional wells in cases where lessees have requested such relief and where it is determined by the secretary that the cessation of drilling will not result in loss to the United States through drainage from wells on adjoining lands.

As to Indian lands, varying situations exist. The Osage Indian lands in Oklahoma constitute a very productive area in which the oil and gas deposits are tribal property, and under the provisions of the act of March 3, 1921 (41 Stat, 1249), the Secretary of the Interior is required to offer for lease annually 100,000 acres, irrespective of the price of oil, conditions of overproduction, or any other considerations which make it inadvisable to make such offering. There are other Indian reservations throughout the United States, in which the ownership of the oil and gas is in the tribe, but as to these reservations there are no mandatory provisions of law requiring the secretary to lease within any stated period, the time of offering being consequently within his discretion. There are also throughout the country a large number of individual Indian allotments which may be leased for the production of oil and gas by the allottees, subject to the approval of the Secretary of the Interior. Rules and regulations have been promulgated and are enforced by the secretary relating to all these classes of leases and, generally speaking, when leases are issued, he has authority to relieve temporarily from drilling requirements, upon request of the lessee.

With respect to both public and Indian lands, it is doubtful whether the Secretary of the Interior would have authority to join, or permit lessees to join, in the co-operative development and operation of a pool. He should have this authority, and the committee recommends that Congress be asked to enact legislation to this end. It might also be well to remove any doubt which may exist as to this authority, to include in such legislation provisions authorizing cessation of drilling and of production during periods of overproduction, in the discretion of the secretary and with the consent of other parties interested in the leases or deposits.

The existing law mandatorily requiring, regardless of conditions, the offering for lease of 100,000 acres of Osage lands annually, is directly opposed to the principles of conservation, and not in the best interests of the Indians themselves. The committee is advised that legislation has been introduced in Congress authorizing the Secretary of the Interior to reduce the area to be hereafter annually offered, or to suspend the offering of lands for not exceeding two years at any one time when, in his opinion, an overproduction of oil or inadequate prices make such extension or suspension desirable. The adoption of this legislation is recommended.

To sum up, the recommendations are these:

(1) Federal legislation which shall (a) unequivocally declare that agreements for the co-operative development and operation of single pools are not in violation of the federal anti-trust laws, and (b) permit, under suitable safeguards, the making, in times of overproduction, of agreements between oil producers for the curtailment of production. The form of such legislation which we would suggest is Appendix "A" hereto.

(2) Similar legislation by the various oil-producing States.

(3) Immediate further study into the matter of the waste of natural gas, in order that legislation may be formulated which will forbid such waste as fully as may be done without working injustice and unreasonable hardship.

(4) Legislation by Congress granting the Secretary of the Interior authority to join and permit lessees from the government and operation of single pools.

(5) The passage by Congress of the legislation heretofore recommended to it by the Secretary of the Interior, removing the existing mandate upon him to offer for lease annually, regardless of conditions, one hundred thousand (100,000) acres of Osage Indian lands.

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Jas. A. Veasey	E. C. Finney
J. Edgar Pew	W. S. Farish
Abram F. Myers	Warren Olney, Jr.
Walter F. Brown	

Pure Oil-Texas Company Deal Falls Through

Fort Worth, Texas—Failure of The Texas Company to consummate its proposed purchase of a large amount of proven and semi-proven leases held by the Pure Oil Company in Pecos, Crane, Upton and Winkler Counties, West Texas district, has been followed by negotiations being made by a Standard Oil unit to acquire the holdings. The former company obtained an option on the properties during a conference of officials of the two companies at the Chicago meeting of the American Petroleum Institute last December. No announcement has been made as to the cause of the deal falling through, although The Texas Pipe Line Company began assembling eight-inch pipe at Monahans, Texas, for the building of an eight-inch line from the Hendrick field leases to tank car racks at Monahans and McCamey shortly after the option on the properties was given The Texas Company. Should this deal have gone through, The Texas Pipe Line Company would have been forced to build a trunk line out of the West Texas district.

Ventura County Wildcats

Ventura, Calif.—Wildcat activity in Ventura County has shown a good increase during the past three months, due to important discoveries in the Rincon and Sulphur Mountain fields. Near many of the older fields that have produced from shallow sand for years, several important tests are under way. The Santa Paula, Fillmore and Piru districts have attracted many operators who are attempting to either extend the producing limits of the old shallow fields or find deeper sands. The Standard Oil Company is abandoning its deep test near Camarillo at 5720 feet. The well produced a little oil but could not be made a commercial success at such a great depth. The Standard is also rigging up to drill a wildcat near Saticoy, where some work has already been done. W. W. Bryant has obtained a very small production in his wildcat test in Santa Paula canyon. Production is coming from a sand near 1600 feet.

New Production Horizon in Pottawatomie County

Tulsa—Indian Territory Illuminating Oil Company discovered production in what is believed a new pay horizon in the Pearson-St. Louis field of Pottawatomie County, February 1, completing Sullivan 1, in the southwest of the northwest of the southeast of section 25-7-3, for a yield of 527 barrels the first two and one-half hours.

Depth of the pay is 4204-4213 feet, and was reported from the Viola lime, indicating a likeness to the Seminole area Wilcox sand production 12 miles northeast. Differences of opinion were voiced as to the definiteness of the formation late last week, some operators declaring it was the Hunton lime, formerly the only producing formation in the Pearson-St. Louis field. Gravity of the oil tested 40 degrees Baume.

Important Gas Discovery In Chaves County, N. M.

Albuquerque, N. Mex.—Arena Oil Company has made an important discovery of gas in its test in Cap Rock country, northeast of section 18-13s-31e, Chaves County, New Mexico. Gas sand was topped at 2575 feet with an estimated open flow of 1,000,000 cubic feet.

Importance of the discovery lies in its location, 18 miles north and west of the Texas Production Company's Robinson 2 in Lea County. It is 100 miles from the new discovery to the Texas Production Company's Rhodes well on the Winkler County line in Texas. There are two producing areas in between.

Robert L. Jones, formerly with the National Supply Company for several years, has gone with the D. F. Connolly Agency, Inc., with headquarters in Tulsa.

Sub-Committees in California Conservation Movement

LOS ANGELES.—As an aid to the general committee recently appointed by E. W. Clark, president of the American Petroleum Institute, sub-committees have been named to serve in the various districts in California where the conservation of surplus gas is vital. The personnel of the operator's general committee has already been announced. The general committee recently met and named the field or sub-committees, which are to investigate conditions in the various districts and to make recommendations on their findings. Governor Young has urged the conservation of gas for some time, and early in January his conservation committee met with prominent operators to work out a practical plan for saving the surplus gas. The field committees appointed follow.

Los Angeles Basin—J. B. Case, deputy oil and gas supervisor; A. C. Rubel, Union Oil Company of California; Martin Van Couvering, representing a number of independents; T. E. Swigart, Shell Company of California; V. H. Wilhelm, California Petroleum Corporation; W. E. Dunlap, Richfield Oil Company; W. W. Copp, Marland Oil Company; J. M. Hicks, Superior Oil Company; B. P. Tracy, Standard Oil Company of California; H. L. Eggleston, Pan American Petroleum Corporation, and H. J. Steiny, Associated Oil Company.

Ventura District—Joseph Jensen, Associated Oil Company; B. E. Parsons, General Petroleum Corporation; Logan Burrell, Shell Company of California; C. C. Thoms, deputy oil and gas supervisor; Harold C. Dievendorf, Pan American Petroleum Company; Ward Blodgett, Chanslor-Canfield Midway Oil Company, and Irving Augur, Bolsa Chica Oil Company.

Kern County—Al Tietze, and J. H. Menke, Standard Oil Company of California; H. A. Goode, deputy oil and gas supervisor; L. A. Cranson, Honolulu Consolidated Oil Company; Louis Brandel, Pan American Petroleum Company; J. B. Stevens, Associated Oil Company; R. R. Shinn, General Petroleum Corporation; Bert Moss, George F. Getty, Inc., and Charles L. Woods, Union Oil Company of California.

Distributing and Marketing—C. C. Brown, gas administrator of the Railroad Commission; R. E. Beckley, Standard Gasoline Company; F. F. Doyle, Southern California Gas Company; Roy Bauer, Southern California Gas Company; R. W. Garman, Union Oil Company of California; A. Bridge, Southern Counties Gas Company; George Ratcliffe, General Petroleum Corporation; A. M. Porter, Shell Company of California, and Gardner Bullis, Murphy Dillon Company.

The principal operators of the State were asked by M. E. Lombardi, chairman of the operators general committee, to cooperate in every way possible with the field committees in order that the gas conservation problem may be solved.

The first meeting of the Los Angeles basin committee was held in Los Angeles February 1. Martin Van Couvering was elected chairman and W. W. Copp, secretary. Chester W. Brown opened the meeting by stating that the purpose of the work was to determine the amount of gas produced, the amount utilized and to formulate recommendations as to the economical disposition of the excess gas produced. Although field committees had already been appointed, additional subcommittees were appointed and assigned to the individual fields of the Los Angeles basin as follows:

Long Beach—A. S. Hayes, H. L. Eggleston, T. E. Swigart and L. E. Porter.

Seal Beach—H. L. Eggleston, W. W. Copp, H. J. Steiny and B. P. Tracy.

Richfield—A. A. Hayes, T. E. Swigart, B. P. Tracy and F. W. Lake.

Huntington Beach—B. P. Tracy, H. J. Steiny, J. M. Hicks and V. H. Wilhelm.

Santa Fe Springs—A. S. Hayes and B. P. Tracy.

Dominguez-Rosecrans—A. C. Rubel, L. E. Porter and T. E. Swigart.

Montebello—B. P. Tracy and F. W. Lake.

Brea-Olinda-Whittier—T. E. Swigart, B. P. Tracy, F. W. Lake and W. B. Blodgett.

Torrance-Lomita—J. M. Hicks and W. B. Blodgett.

Newhall—W. P. Tracy.

Coyote Hills—B. P. Tracy and F. W. Lake.

Inglewood—H. J. Steiny, T. E. Swigart, B. P. Tracy and H. L. Eggleston.

Salt Lake-Beverly Hills—H. J. Steiny.

A general discussion at the meeting brought out the opinion that there were several methods which might be used to curtail the supply of surplus gas. The gas-oil ratio was especially stressed as the basis for improvement in many districts. It was pointed out that production of gas was curtailed in the Ventura field, with only a small loss in oil production. The various field and sub-committees are now working on their assignments and will report their recommendations whenever complete data is available.

Institute Engineering Division Being Organized

NEW YORK — Active organization of the Division of Development and Production Engineering of the American Petroleum Institute is now under way, according to a circular recently sent out by the Institute. This division was decided upon at the Chicago meeting and a number of committees were appointed then. John R. Suman, chairman of the newly created division has made numerous suggestions concerning organization in a letter sent to all district chairmen.

The suggestion made by Mr. Suman call for district meetings in the near future, for the purpose of electing the district vice-chairman and secretary.

A committee to draft by-laws and methods of procedure for the new division, headed by Max W. Ball, will meet in California during the annual convention of the American Association of Petroleum Geologists, and try to complete its work then.

At Chicago the following committees on special subjects were appointed: Committee on Standardization of Development and Production, Records and Nomenclature, A. C. Rubel, chairman, Union Oil Company of California, Los Angeles; Committee on the Compilation and Correlation of the Regional Reports of the Technical Sub-committee of the American Petroleum Institute Gas Conservation Committee, Earl Oliver, chairman, Ponca City; Committee on Development and Production Research, Dr. W. P. Haseman, chairman, Marland Oil Company, Ponca City; Committee on Metallurgy of Oil Field Equipment, Harold W. Fletcher, chairman, Hughes Tool Company, Houston; Committee on Electrification of Oil Field Equipment, Frank O. Prior, chairman, Midwest Refining Company, Casper; Committee on Production Technique, C. E. Beecher, chairman, Empire Gas and Fuel Company, Bartlesville; Committee on Drilling Technique, H. H. Anderson, Shell Company of California, Higgins Building, Los Angeles.

It is suggested that a member on each of these subject committees be selected in each district. The member so selected will automatically become chairman of the district committee on that subject.

It is also suggested that district chairmen appoint local membership committees to secure additional members. Only members of the A. P. I. are eligible. If a prospective member does not already belong to the A. P. I. he should sign two applications, one for the general A. P. I. membership and another for this division.

A general meeting of the division is scheduled to be held at Colorado Springs, in June, further details of which will be announced later.

Yates Field Well Average Limited To 350 Barrels

Smaller acreage included in productive area in making proration of pipe line capacity; failures reduce area

FORT WORTH, Texas—The allotment of pipe line outlet quotas for each producing unit in the Yates field during February has been compiled by the Yates field proration committee, with a slight reduction in total producing acreage credited to the field, owing to dry holes completed on edges of the structure in January. The field is assured a daily average pipe line outlet of 48,000 barrels during February, and on this basis the average daily production per well in the field will be limited to about 350 barrels for the ensuing 30-day period, although the total potential production of the field is generally recognized as being near the half million mark daily from the 140 completed wells.

The Yates field is served by Humble Pipe Line Company's eight-inch line; Illinois Pipe Line Company's eight-inch carrier to tank farm at Del Rio and a six- and an eight-inch line to the McCamey district; Gulf Pipe Line Company's eight-inch, and Roxana Petroleum Corporation's six-inch, but the latter two lines are restricted to private production and in proportion to the proration agreement.

Proration of pipe line runs in the Yates field has been in effect and successfully enforced since October 1, 1927. The original method of determining individual shares in the pipe line outlets was based on potential production of each lease in the field, and this plan necessitated a heavy development campaign to maintain an equal share of the market outlet. In order to get around this excessive drilling of wells and shutting same in to a minimum daily outlet, the majority of the operators voted to divide pipe line outlet per lease by the number of proven acres contained in same, thus killing all incentive to drill up inside locations. J. Elmer Thomas, consulting geologist of Fort Worth, was engaged by the Yates field proration committee, to work in conjunction with geologists of the producers involved, to estimate the proven developed and proven undeveloped acreage in the field, and the first estimate was compiled on December 1, 1927, to determine pipe line quotas for January runs.

The appearance of water in producing wells, and completion of dry holes on the outer rims of the Yates field structure during January resulted in less proven developed and undeveloped acreage being accredited to the field on February 1 than was accredited to the field on December 1. This reduction in the gross amount of proven developed acreage resulted in several of the producers being given a smaller pipe line quota for February, and to regain same, more drilling must be done beyond the estimated line of production.

Proven Area

According to the estimate worked up on December 1, the Yates field was credited with having 15,113.8 acres of proven developed acreage, and 1,663.31 acres of proven undeveloped acreage, but the revised estimates on February gives the field only 14,259.17 acres of proven producing acreage and 504.89 acres of proven undeveloped acreage. According to these estimates, the gross amount of proven developed acreage decreased 854.63 acres, and the proven undeveloped acreage declined 958.42 acres.

Because of protest registered by some of the producing units in the Yates field as to the pipe line outlet earned under the acreage proration plan, an adjustment was made in a number of cases, thus resulting in losses for some companies and gains for others, but this was worked out by consent of those that took the reduction. The adjusted percentage for January runs is shown by companies in the accompanying table, but is not available for February.

The shrinkage of the proven acreage in the Yates field was largely placed on the west and southwest borders, while a minor extension to the south by southeast flank of the field was given on the strength of a commercial well completed in January in Mid-Kansas & Transcontinental's M. A. Smith 2, which made 100 barrels natural at 1110-1245 feet. This well is about one and one-quarter miles south of the nearest oil production, and is being offset on two sides. Gulf, Roxana and The California Company have been asked by the proration committee to do some more drilling on the northwest, west and southwest sides of the field to prove up acreage considered doubtful.

Officially estimated proven oil producing acreage and percentage of pipe line outlet held by each operator in the Yates field on December 1, 1927, and on February 1, 1928, is shown in the accompanying table, as a means of comparing the pipe line outlet for each producer in January with quotas allotted for February.

Operators—	December 1,1927 Proven Acres	December 1,1927 Pipe Line Percentage	Adjusted Pipe Line Percentage	February 1, 1928 Proven Acres	February 1, 1928 Pipe Line Percentage
Mid-Kansas-Transcontinental ...	4,833.6	31.98	32.17	5,163.20	35.25
The California Company.....	3,279.73	21.70	15.28	2,361.30	16.75
Gulf Production Company.....	2,599.13	17.19	16.13	2,490.80	17.68
Roxana Petroleum Corp.....	1,651.19	10.93	8.82	1,361.70	9.67
Humble Oil & Refining Co.....	1,216.32	8.05	7.18	1,109.12	7.87
McMan O.&G. Co. & Marland..	697.13	4.61	8.00	697.13	4.95
Simms Oil Company.....	393.35	2.60	6.00	393.35	2.79
McMan Oil & Gas Company....	....	1.60	....	....	1.59
Red Bank Oil Company.....	140.00	.93	1.00	133.00	.9443
Marland Oil Company.....	119.35	.79	2.00	119.38	.8476
Kirby Pet. & Edson Pet. Co.....	80.00	.53	.82	85.00	.8168
Savoy Oil Co. & Mazda Oil.....	80.00	.53	.50	80.00	.5680
Osage Oil Corp. & T. T. Word..	....	....	....	2.00	.2769
Pandem Oil Corp. & Gibson....	24.00	.16	.50	39.10	.2769
Totals	15,113.80	100.00	100.00	14,259.17	100.00
Undeveloped proven acreage....	1,663.31			504.89	
Grand Total	16,777.11			14,764.06	

Ohio Oil Company Starts California Test

Los Angeles.—The Ohio Oil Company, one of the latest entries into California, has located a well in the Cypress district. The new location is in the center of the northeast quarter of the southeast quarter of section 9-4-11 and about midway between Seal Beach and West Coyote. Two tests have been drilled in the immediate locality, one by the Standard Oil Company and another by independent interests. The Standard well was drilled to 5400 feet, with no important showings. The Ohio interests have acquired more than 620 acres near the well.

J. W. Steele, supervisor, and D. P. Wardwell, deputy supervisor, Mineral Leasing Division, U. S. G. G., are in Washington where they will attend a conference of heads of the various Survey departments from all over the United States.

Hendrick Field Operators Appoint Conservation Committee

Each producer in field has representative on body to advise with railroad commission on handling water problem and gas waste

By H. H. KING
Staff Representative

FORT WORTH, TEXAS — Gas waste and water troubles in the Hendrick field, which is the most active drilling and leading oil producing area in the West Texas district, were discussed at an open meeting held here February 1, by producers interested in the field, and a committee of field men was appointed to act in an advisory capacity to the Railroad Commission in correcting the difficulties. The meeting was called by R. D. Parker, chief supervisor of the oil and gas division of the Railroad Commission, and nearly all lease owners in the field had a representative in attendance.

The Hendrick field producers were permitted to express their views on the water situation and waste of gas found in the lime above the main oil producing horizon by Mr. Parker, who presided as chairman at the meeting, and those present were unanimously opposed to the passing of fixed rules governing the seating of casing, as the open discussion revealed that virtually every well in the field is a problem of its own.

Committee Named

The Hendrick field conservation committee consists of one field representative of each operator in the area, with J. A. Morehouse, deputy supervisor of district 17 acting as chairman of all meetings. The personnel of the committee follows: N. B. Winter, Atlantic Oil Producing Company; Rex Nichols, Cranfill-Reynolds et al; F. W. Couvalt, Amerada Petroleum Corporation; Ray Sindorf, Eastland Oil Company; M. O. Boring, Gulf Production Company; Fred Scaly, Humble Oil & Refining Company; C. A. Daniels, Independent Oil & Gas Company; H. H. Watson, Landreth Production Corporation; R. T. German, Magnolia Petroleum Company; George Hatfield, Maxwell & Turman; W. F. Lewis, Republic Production Company; Alex Fields, Roxana Petroleum Corporation; J. C Creeden, Skelly Oil Company, and A B. Irions, Southern Crude-Dixie and R. A. Westbrook. The naming of representatives for Pure Oil Company, Texon Oil & Land Company, Sheldon & Burden, and Murchison Oil Company & Cranfill Bros. Oil Company was deferred, but each will appoint a field man to attend the conferences.

John R. Suman, production manager for the Humble Oil & Refining Company outside the Gulf Coast district, offered a resolution calling for the appointment of the field committee to consist of one field representative of each operator in the field, to meet at frequent intervals in the field and study the conservation problems as they arise in the future. J. A. Morehouse, deputy supervisor in district 17, which includes the Hendrick field, was recommended to act as chairman of the field committee. This resolution was approved by the operators, and the first committee meeting was called for February 7 by Morehouse. The powers of this field committee will be restricted to the aiding of the Railroad Commission in an advisory capacity in the enforcement of conservation laws.

Although it was the general opinion of all the operators who took part in the open discussion of problems in the Hendrick field that a major drilling campaign and big overproduction is to occur in the field shortly, no effort was made to initiate shutdown movement, as was the case in the Yates field when overproduction became a certainty.

Encroachment of water upon the oil producing horizon in the Hendrick field has created a situation somewhat similar to that experienced in recent years in the Mexia-Corsicana district Woodbine pay fields, as the drainage of oil is followed by a rise of the water level upon the structure and each operator must protect his property by withdrawing the oil in the briefest period possible. Increased drilling and enlargement of tank building programs are concrete evidence that the Hendrick field operators are going to go the limit in skimming off the flush production from the structure promptly. Current daily production is above 90,000 barrels from 60 wells, with less than one-half this number flowing wide open, owing to limited facilities for handling the production.

Source of Water Trouble

The porous lime formation furnishing heavy gas production in the upper levels and big flowing oil wells, with some exceptions, in the lower horizon

(Continued on page 27)

We Apologize

On page 31 of the issue February 3 appeared an article under the heading "Water Intrusion Hurries Work in Yates Field." This heading, as is revealed in the article, should have read "Hendrick" instead of "Yates," as no such condition exists in the Yates field.

HENDRICK FIELD OPERATIONS

The status of operations in the Hendrick field, Winkler County, Texas, at the close of last week is shown below by companies:

Company—	Locations and Rigs	Drilling Tests	Tests in Big Lime	Completed Wells	Initial Production	Average Product.
Amerada Petroleum Corp.	..	..	1	..	.....	.....
Arizona Mining & Eng. Co.	1	..	..	..	.....	.....
Atlantic Oil Prod. Co.	5	..	5	4	13,810	13,270
Atlantic & J. D. Collett	2	..	1	..	.....	.....
V. T. Bolin & Co.	1	..	..	..	.....	.....
Cranfill-Reynolds et al	1	..	1	3	11,825	6,075
Eastland Oil Company	..	..	1	..	.....	.....
Gulf Production Company	2	4	1	6	16,695	10,475
Humble Oil & Refining Co.	8	1	4	4	19,400	8,500
Independent Oil & Gas Co.	3	2	6	4	18,670	10,085
Landreth Prod. & Roxana	1	..	2	3	10,800	8,180
Magnolia Petroleum Co.	1	1	3	3	10,000	1,500
Marland Oil Company	3	..	..	..	.....	.....
Joe Maxwell & L. C. Turman	..	2	6	..	.....	3,575
Murchison & Cranfill Bros.	3	..	2	4	6,175	1,620
Pure Oil Company	2	2	6	2	7,040	1,610
Republic Production Co.	1	1	2	1	6,000	4,440
Roxana Petroleum Corp.	..	2	8	4	30,600	*935
Waldo Sheldon & Burden	..	..	1	..	.....	.....
Southern Crude & Dixie Oil	2	1	9	7	8,310	4,760
Southern & R. A. Westbrook	2	3	11	5	9,350	8,390
Texon Oil & Land Co.	..	..	4	1	4,100	1,300
Totals	38	19	74	51	171,775	93,130
Totals previous week	26	19	69	50	166,425	90,000

*Production partially pinched.

Panhandle Crude Prices Justified in Commission Report

Quality of oil and transportation problems given as reason for lower prices in report of Federal Trade Commission

WASHINGTON, D. C. — The different physical properties of Panhandle crude justified the lower price offered by refiners in the latter part of 1926, Congress was told last week in a report by the Federal Trade Commission upon its investigation of prices of crude petroleum produced in that field.

Adoption of the reduced price by the purchasing companies caused widespread dissatisfaction among the smaller producers, it was pointed out in the report, who believed that they were being discriminated against. Following a study of the situation, however, the commission came to the following conclusions:

"1. Rapid development of the Panhandle oil field resulted in an oversupply of crude petroleum of a quality and character unlike that theretofore produced in other parts of the Mid-Continent fiedl.

"2. Physical properties and characteristics of Panhandle crude petroleum were such as to involve greater expense in transportation, storage and refining and consequently to preclude immediate demand for a daily output.

"3. Practically all petroleum sold in the Panhandle field was produced by companies having refining facilities not immediately suitable for successfully handling the new product. They nevertheless were obliged to assume the expense of storage and the task of finding methods adequate for refining and treating the crude product. Doubtless they will eventually make this oil acceptable for commercial sale and use.

"4. Controlling reasons alleged in support of the price reduction were based on the objectionable physical propetries of crude petroleum produced in Hutchinson and Carson Counties, Texas, as compared with petroleum produced in other parts of the Mid-Continent field.

"5. Chemical analyses of Panhandle crude petroleum by private laboratories and the United States Bureau of Mines appear to sustain the reasons and position of purchasing companies with respect to the physical porperties of Panhandle crude petroleum as compared with crude petroleum produced in other parts of the Mid-Continent field."

The Commission's report continues:

"Adoption of the reduced price by the purchasing companies caused widespread dissatisfaction among the smaller producing companies. Representative Marvin Jones, of Texas, and the West Texas Oil and Gas Association requested the Federal Trade Commission to conduct a 'full, fair and complete investigation of reasons for the cut in price of crude, the necessity therefor and all matters connected with same.'

"The commission found, as a result of inquiry among large and small producers whose combined production comprised more than 70 per cent of the current output of the Panhandle field, that prior to August 1, 1926, crude was purchased on a gravity basis. A minor purchaser of Panhandle crude was the first company to change from a gravity to a flat price basis. It did so effective August 1, 1926. Other companies followed suit at various times from August 1 to October 4, 1926.

"'It will be seen', the commission declares in its report, 'that so far as the producers were concerned, depending upon the grade or gravity of their product, the flat price of $1.25 per barrel, resulted in reductions ranging from 10 cents to 65 cents per barrel.'

"The commission explained that 'under the guarded gravity basis the differentials between Oklahoma and Panhandle prices ranged from a minimum of 30 cents per barrel, or about 18 per cent, for the lowest grade crude, to 63 cents, or about 25 per cent, for the highest grade. With the adoption of the flat price of $1.25 per barrel for all grades, however, the differential amounted to 40 cents per barrel * * *.'

"Three factors that determine the differential at which Panhandle crude will move in competition with crude from the older fields were given by one of the large refining companies in effect as follows:

Worth Less

"1. Panhandle crude of high sulphur content is worth less to the refiner than crude of similar gravity free of this objectionable sulphur.

"2. Refiners disagree as to the amount of this differential but based on present value of products it is estimated to be approximately 35 cents a barrel. In addition to the sulphur content affecting its value Panhandle crude must stand today the relatively higher rail cost of transportation.

"3. A market for this particular quality of crude must be created and can only be created on a price basis which will induce refiners to run crude of high sulphur content in place of the crude they are now running.

"Investment in tankage and the 'carrying charges' on crude held in storage are important factors entering into the price per barrel offered at the wells. One large company reported that it is reasnoable to assume that oil now put into tankage in the Panhandle field will remain there at least two years, so that any purchaser of oil to go into storage must necessarily figure the probable cost of this oil to him at the time it can be moved out of storage. This company declares that certainly oil for which there is no market today and which must therefore go into storage has not the same value as oil that can be moved and marketed currently.

"It was found that 'while several more or less important factors had a bearing upon the price reduction, according to the testimony of experienced oil producers, refiners and pipe line operators in the Panhandle and other Mid-Continent oil fields the most emphasized reason alleged for the reduction in prices was the quality of the crude petroleum produced in Hutchinson and Carson Counties.' The commission therefore sought to obtain reliable technical information concerning these basic properties and characteristics of Panhandle crude. The United States Bureau of Mines had already made a special study of Panhandle oils. In addition, samples of crude oil were obtained by the commission direct from wells in the field and were analyzed by the Bureau of Mines. Detailed typical analyses of these samples from Hutchinson, Carson and Gray Counties are a part of the record in the commission's report.

Refining Difficulties

"Regarding these physical properties one large refining company reported in part that 'the Hutchinson-Carson County crudes contain about one-half of one per cent sulphur, which is two to three times the amount in the best Texas and Mid-Continent light crudes, and some of the crude has a marked tendency to carry salt in suspension. The crude is more corrosive to refinery equipment than the average Mid-Continent crude and gives off hydrogen

(Continued on page 76)

Tulsa Engineers Discuss Air-Gas Lift Problems

DeGolyer talks on general conditions in industry before Mid-Continent section of the A. I. M. E.; officers named

By WALLACE DAVIS
Staff Representative

TULSA.—The present price depression under which the oil industry is being forced to operate has been the cause of development of new thought within the industry, E. DeGolyer told members of the Mid-Continent section of the American Institute of Mining and Metallurgical Engineers at their annual meeting in Tulsa Thursday night, February 2. Mr. DeGolyer is chairman of the national association of the A. I. M. E., and attended the Mid-Continent section meeting while on a business trip in Tulsa from his New York headquarters.

Oil industry heads are being made to realize now that oil is not distantly related from the other minerals, at least in operating margins they are occasionally reduced to work under, he brought out, and indicated that they were becoming more akin as the oil industry developed. He further indicated that the oil industry is now a lot like other mineral industries, having many future reserves. He told of the rapid passing of the old idea of possible exhaustion of the oil supply, mentioning as contrast his idea in 1912, that apparently it was impossible for that year's production to be passed by any future year.

It's not the supplies in reserve that stands out as important in the industry, but the skilled engineering methods of recovery that will make possible recovery at a better profit, he contended. And the coming of such skilled methods is apparent, and it will be this skill that will go to liken the oil industry even more to other mineral industries, he believes.

Mr. DeGolyer's talk implied that about the best vacation to be taken by an oil man grieving over depressed conditions was to visit the centers of mining of other minerals. At such points he might learn just what a good condition the oil business is in comparatively.

C. V. Millikin, gas lift engineer for Amerada Petroleum Corporation and head of the scouting department, Tulsa, headquarters, was elected chairman of the Mid-Continent section of the A. I. M. E., succeeding A. W. Ambrose of the Empire Companies, Bartlesville, and will represent the Mid-Continent group at the national meeting of the association to be held in New York on February 20-24. Other officers for 1928 elected at the Tulsa meeting were as follows: C. E. Beecher, Empire Companies, L. G. E. Bignell, Parkersburg Rig & Reel Company, and C. W. Tomlinson, Schermerhorn Oil Company, vice chairmen; J. R. McWilliams, Skelly Oil Company, secretary-treasurer; K. C. Sclater, Marland Oil Company, M. M. Valerius, M. M. Valerius & Company, Frank A. Herald, Herald Brothers, and H. F. Wright, Sun-ray Oil Company, members of the executive committee; C. V. Millikin, Amerada Petroleum Corporation, L. E. Smith, National Petroleum News, and R. R. Bradenthaler, Bureau of Mines, program committee. The nominating committee naming this new 1928 group were R. R. Brandenthaler, H. B. Goodrich, L. E. Smith and Burr McWhirt.

Gas and Air Lift

The economics of gas and air lift in producing oil was given a two hour discussion, with approximately 12 members giving their views from experience had with the methods, while general discussions of the talks were carried on by the more than 50 members present.

In discussing the economic phases of gas and air lift, views of performance at Seminole were aired generally, it being an established fact that there are more records taken on these production methods from this area than all others combined. Also there has been more study and effort given the Seminole area gas-air lift work than in other areas. It develops then that there is a part of the many reasons why gas-air lift efforts in other fields have failed to come up to performance had at Seminole. This, with the fact that there is a proper gas-oil ratio at Seminole, is given as the reason why these artificial methods have responded to such a great advantage there.

Some condemnation was wrought on gas-air lift methods used at Seminole by the members, their reason being that this resulted in rapid recovery, thus having the greatest bearing on present low prices. It developed that slightly more than 60 per cent of Seminole area's yield has been recovered by air-gas lift methods.

One of the good assets to come from work in air-gas lfit at Seminole is the education derived from its use there. Further, as Seminole is abandoned by these methods, this equipment will be transferred to other fields where its use has been slight heretofore, and installation of equipment in these various fields will further spread the knowledge of the methods toward perfection. While the idea has been exploited somewhat thorugh the Mid-Continent that gas-air lift equipment will be abandoned at Seminole and thus the equipment will be charged fully against profit in production there, it was considered pretty generally among engineers at the meeting that this will give other areas a chance to prove their reaction to the methods. And it will be these areas which will aid in paying for the equipment, certain percentages annually, according to company policies in charging off the equipment. There are numerous instances throughout the Mid-Continent where compressors and engines are in use which have been used in repressuring sands for more than a decade, and which are still giving first class performance.

A point of interest brought out at the meeting was the possibility of eliminating the intermediate stage in a well's life between the natural flow stage and pumping stage. It is seen to be this intermediate stage where recovery responds better to air-gas lift. The suggestion of this possibility was followed by a suggestion to spend more time studying the improvement of the well's natural flow and less time to artificial flowing means. Even in case of failure to lengthen the flowing life into the pumping stage, it was pointed out that more knowledge about handling the natural flow of a well would also contribute to the artificial flowing methods.

It was brought out that the gas-air lift methods work best in areas of cooperative production and where its use is wholly applied by all operators. Proof of this was shown in citing pumping and flowing wells which had increased after gas or air-lift was installed on a neighboring lease. This action, however, usually comes when enough pressure is applied in the hole to be greater than rock pressure; that is, when rock pressure decreases below the artificial pressure, thus causing reverse action in the sands.

Howard County Operators Agree to Shut in Wells

Completion of second big producer in chalk field over-taxes handling facilities and brings agreement to control output

By H. H. KING
Staff Representative

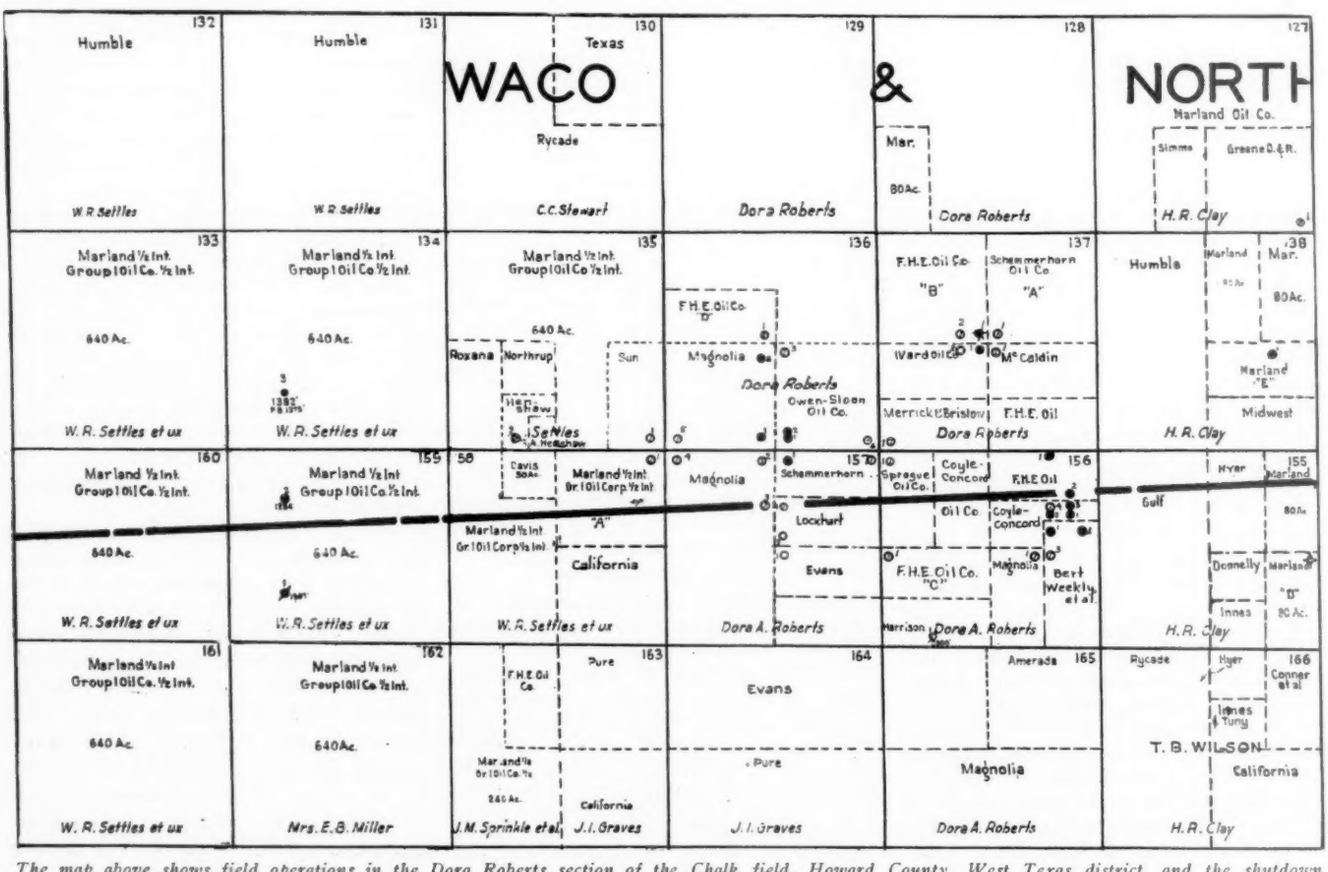
BIG SPRINGS, Texas—Completion of a second big oil producer from the deep lime pay in the Dora Roberts section of the Chalk field, Howard County, last week resulted in a movement being launched to hold back this flush production until more adequate facilities can be provided by Magnolia Pipe Line Company to run the oil for purchase, or until another buyer enters the field. About 20 tests are drilling within a two-mile radius of Magnolia's discovery well on the Roberts land, and all of these are scheduled to make a try for production in the 2990-foot lime pay, unless attractive producers are scored in the shallow horizons. The majority of the owners of these tests have made a verbal agreement to shut in their deep producers after completing and flowing same open for a 24-hour period, and the shutdown movement is further assured by the absence of a pipe line outlet.

Evidence of a high crude yield per acre from the deep lime pay is offered by the performance of Magnolia Petroleum Company's Dora Roberts 1, which uncovered the flush pay at 2956-68 feet, with a total depth of 2990 feet last October, and produced 217,404 barrels of 28 degree gravity clean oil up to and including February 1. This well was swabbed in on October 24 after standing several days pending erection of tankage and extension of a small gathering line from the Chalk shallow area, and gauged 1300 barrels during the first 12 hours. The production was restricted to about 800 barrels daily until 2 p.m., November 28, when an open flow gauge registered 2850 barrels natural. A swab left in the hole at time of completion was not pulled until December 14, and the flow of oil jumped from a low level of 2380 barrels daily to the original peak mark. The flushing of flow lines account of paraffin accumulation shot the daily flow to a new peak of 3330 barrels daily on January 7, and the flow remained above the 3000 barrel mark until the completion of an offset producer last week. The gas production accompany the flow in Magnolia's well gauged about 600,000 cubic feet.

An east offset to the Magnolia discovery well in the lime pay was brought in February 1 by the Owen-Sloan Oil Company's Dora Roberts 2, a twin location to a small pumper in the 1900-foot sand horizon, after drilling lime pay at 2955-90 feet with an initial flow of 100 barrels of 28 degree gravity oil per hour. This well was deepened several days later to 3005 feet, and increased its flow to 160 barrels per hour. The "pull" made by this big producer on the lime pay caused Magnolia's well to drop from above 3000 barrels daily to a dormant stage in three days, but two trips of the swab revived the flow to 135 barrels hourly.

Storage Filled

Schermerhorn Oil Company, Tulsa, is drilling in its Dora Roberts 1, a south offset to the Owen-Sloan Oil Company's big well and a southeast offset to Magnolia, with a hole full of oil from regular pay



The map above shows field operations in the Dora Roberts section of the Chalk field, Howard County, West Texas district, and the shutdown agreement involves deep producing wells in and around section 136.

at 2963-86 feet, this giving the pool three producers.

Magnolia erected five 55,000-barrel steel tanks adjacent to its West Texas trunk line, which passes through Howard County above the Roberts pool, to store the oil from its Roberts well, and these tanks are now filled, while the trunk line is loaded to maximum capacity with oil produced, purchased on contract and transported on contract from Crane and Winkler Counties. Virtually all the shallow oil produced in Howard County is being run and purchased by the Coltex Refining Company, which has a skimming plant at Colorado, but this concern is not interested in the deep production, even though the price is 20 cents per barrel less than the shallow production, owing to the presence of sulphur. Magnolia has been paying royalty owners under the Roberts lease 60 cents per barrel base for the oil produced.

The movement to shut in the wells flowing from the deep lime pay originated with Magnolia officials and Sam Sloan, head of the Owen-Sloan Oil Company, when it became apparent that the production could not be handled. These two concerns agreed to complete tests now drilling and flow same for 24 hours, then shut in, and the first wells were closed down Sunday. The Schermerhorn Oil Company, F-H-E Oil Company, Sun Oil Company and others have agreed to the plan.

Efforts made recently by Marland Oil Company and the Dixie Oil Company to extend the 2990-foot lime pay about three miles to the east met with failure, while Marland and Group One Oil Corporation (Texon) also missed the deep pay in carrying their W. R. Settles 1 down to 3080 feet. This latter test is located in the center of the southwest quarter of section 159, and about two miles southwest of the deep production. Marland's Clay 1-E, section 138, passed up a number of shallow and semi-shallow oil producing horizons in drilling to 3656 feet, and is now plugging back to make a well from a rich sandy lime pay at 2500 feet. Dixie Oil Company's Clay 1, section 154, is shut down in sulphur water at 3347 feet.

Both rotary and cable tools are being used by operators in drilling to the shallow and deep production horizons in Howard County, although the former is usually replaced by a machine after cementing pipe on the shallow pay, while deep tests are carried down with cable tools after using the rotary to the big lime near the 2000-foot level.

San Francisco.—Oil field opeartions reported to the state oil and gas supervisor during the past week showed 29 new wells started, as compared with 26 during the previous week. Of the 29 notices to drill filed, 11 were for wells in the Long Beach field. The total new wells this year is 93, as compared with 121 at the same date last year. During the early part of last year, the Seal Beach field was drawing the bulk of the new locations. This year it is the Long Beach field.

Hendrick Field Operators Appoint Conservation Committee

(Continued from page 23)

is encountered at depths ranging from about 2100 to 2700 feet in the Hendrick field, according to testimony brought out at the Fort Worth meeting, with a very pronounced structure made up of four or five lenticular zones carrying different types of water. R. B. Whitehead, chief geologist for Atlantic Oil Producing Company, recounted his experience in trying to determine the source of water encroachment by analyzing the water, and was opposed to the passing of a rule fixing depths that casing is to be cemented in the lime, owing to cores taken in a few wells revealing an oil saturation in the first 300 feet of lime penetrated. This oil bearing formation would be sealed off should the casing be ordered cemented in the lime near the top of the big oil pay formation. Whitehead recommended that the operators get together in having water analysis made to avoid undue expense by duplicating.

Experience had by their respective companies in combatting the unexpected water bearing formations while drilling in wells, and problems in handling the heavy gas production were reviewed by Frank Cullinan, vice-president of Republic Production Company; F. J. Adams, agent for Gulf Production Company in the North Texas district; Ed. A. Landreth, president of Landreth Production Corporation, and others. Each were of the opinion that more cement should be used on all casing, and if necessary sacrifice the salvage value in order to protect the field from intrusion of gas and water into foreign zones.

Gas Waste

The current gas waste in the Hendrick field is estimated as being in excess of 400,000,000 cubic feet daily, according to John Suman, who also pointed out that his company is now using between four and five hundred sacks of cement on the lower strings of pipe in order to check the vertical communication of gas and water outside of the pipe. Rotary drilled holes to the lime horizon has given operators trouble in getting their 6⅝-inch pipe through the string of 8¼-inch casing, which is usually cemented on top of the lime, owing to crooked holes. However, Humble is introducing 9⅝-inch, 36-pound casing to take the place of the eight-inch size.

Alex Fields, superintendent for Roxana in the Hendrick field, recommended that the operators use plenty of cement in casing off water and gas bearing formations, and also make use of heavy pipe for the oil and gas strings, owing to the rock pressure in the field running as high as 1400 pounds. The metering of gas from flowing oil wells to equalize the oil and gas ratio will be of help in conserving the gas pressure in the field, according to Fields. He pointed out that all of Roxana's wells were flowing under high back pressure. Roxana's Hendrick 1-D encountered the top of the gray lime at 2200 feet, and got a big gas blow out when 100 feet off the oil pay level, thus making it necessary to kill the gas. This well gauged 3,500 barrels pipe line oil daily through a three-quarter-inch choke with 750 pounds back pressure when drilled into the big pay at 2788-90 feet, and metered 4,000,000 cubic feet of gas. When opened up it gauged 27,000 barrels of oil daily and 14,000,000 cubic feet of gas, thus indicating a well balanced ratio of oil and gas.

Texas Panhandle Output Materially Increased

Amarillo, Texas—Daily production in the Texas Panhandle district has been materially increased by the recent completion of a number of heavy producers on the Bowers and Jackson leases, in the Pampa section of Gray County. Twenty-four flowing and pumping wells on the Bowers and Jackson leases averaged 15,175 barrels daily during the past week, thus boosting the Gray County output to a new peak level. The Texas Company's Bowers 1, a worked over producer, is setting the pace on production, with an average of 41,010 barrels daily last week, while Danciger Oil & Refining Company and Gulf Production Company are also sharing in the flush production, which averages about 44 gravity.

The Texas Company's fourth wildcat test on the G. H. Saunders ranch, located east of Lefors and in the center of Gray County, furnished a surprise completion last week by making a natural flow of 890 barrels of 44 gravity oil daily from granite wash pay at 2720-2740 feet. This well swabbed about 60 barrels of oil daily when first completed, and the natural flow followed. The Texas Company started its first exploration on the Saunders ranch in March, 1923, and the first two tests were given up as dry gassers after spending many months fighting the heavy gas production, and the third test made a small pumper last May. The flowing well is located in section 1, J. Eustes survey, about two miles east of Lefors.

Daily average production on the Bowers and Jackson leases in Gray County during the past week is shown below by companies, with the number of producing wells:

Company	Wells	Prod.
Danciger O. & R. Co. et al..	7	6,595
The Texas Co.....	1	4,110
Gulf Production Co.....	2	3,150
Gibson Oil Corp.....	2	455
Operators Oil Co.....	1	340
Mid-West Exploration Co..	1	165
Majestic Oil Co.....	3	140
C. E. Pollard et al.....	1	120
Skelly Oil Co.....	2	85
Phillips Petroleum Co.....	3	*15
M. J. Delaney Oil Co. et al.	1	.....
Totals	24	15,175
Totals previous week...	21	11,550

*Two wells off.

Humble Official Explains Suit On Loading Line

CONSIDERABLE interest has been aroused by the suit filed by the State of Texas against the Humble Pipe Line Company and others to prevent the construction of certain oil loading lines and facilities near Aransas Pass which has prompted the following statement from Ralph Hanrahan, president of the Humble Pipe Line Company:

"Since the filing of the suit by the State of Texas against Humble Pipe Line Company and others, in the District Court of Travis County, Texas, asking that the defendants be enjoined from constructing certain oil loading lines and facilities near Aransas Pass, Texas, many interested persons, including representatives of the press, have asked for explanation of the suit. As the matter is pending in court, Humble Company feels that it would be improper for it to discuss or argue in the press the issues involved. In order, however, that those interested may be advised, it has decided to make a statement of the bare facts, without comment.

"Approximately two years ago, in order to provide outlet for a small production of oil in the Laredo district, which it was thought would probably increase from time to time, Humble Pipe Line Company built a pipe line from the Laredo district to tidewater in the neighborhood of Aransas Pass, at a point called "Ingleside." A contract was made with Ingleside Land Company, which owned considerable water frontage, under which Humble Oil & Refining Company secured a lease upon a dock site, and built a dock and dredged a channel to connect with the government channel from Corpus Christi to Aransas Pass, agreeing to pay to Ingleside Land Company a wharfage of so much per barrel for all oil or oil products loaded over the dock. This line and terminal was designed to handle a maximum of 20,000 barrels of oil per day. The government channel referred to has a depth of only 25 feet, and boats cannot safely be loaded deeper than 22 to 23 feet. In consequence, boats which can be brought into the channel can be loaded only to about 60 per cent of their cargo capacity, and when so loaded, must be carried to deeper waters to complete the cargo, involving considerable additional expense and delay.

"When the oil recently developed in West Texas, Humble Company, in order to serve that district, decided to construct a pipe line direct to tidewater, a distance of approximately 400 miles. Ingleside was selected as the tidewater terminus, for the reasons that it was practically the closest tidewater point to the West Texas producing area, the company already had the terminal and some facilities there, and it was hoped that through the efforts of the Corpus Christi port authorities, with the cooperation of Humble Company, the federal government could be induced to deepen the channel so as to permit the loading of deeper draft vessels.

"Work was immediately begun upon the construction of a pipe line, which will have a capacity of 70,000 barrels per day when completed. It was hoped that the full 70,000-barrel outlet could be put in operation on or about April 1, and the work has been pushed as rapidly as possible to this end. Pipe line facilities in West Texas are wholly inadequate to move to market the oil that is being and could be produced from wells already drilled, and it was to assist in relieving this situation that this line was planned and constructed.

"Concurrently with construction plans, strenuous effort was made to procure the immediate deepening of the Corpus Christi-Aransas Pass channel so that boats could be brought in to Ingleside and could be loaded to a greater depth. Those interested in deep water improvement in the Corpus Christi district put forth every endeavor. Humble Company cooperated in every way, and itself sent a delegation to Washington to cooperate with the local deep-water representatives. All was done that could be done, but the final report was that no immediate deepening of the channel could be secured, and that it would be two years or more before anything of the kind could be expected.

"The Humble Company was confronted with the over-production of the producers in West Texas; it was about to complete a 70,000-barrel line from West Texas to tidewater, and the facilities for loading or delivering such amount of oil at the tidewater end of the line were wholly inadequate, making it necessary that some other boat loading method be immediately devised and such facilities pushed to completion. The best, quickest and most approved method which could be devised under the circumstances was by means of a sea-loading terminal, consisting of pipe lines running from the mainland to a point something less than two and a half miles east of Mustang Island, at which point 42 feet of water is obtained. These lines and terminal will be wholly within the jurisdiction of the State of Texas. Loading of oil through deep-sea terminals has been followed many years, and has received the approval of the best engineers and anti-pollution authorities.

"The attorneys for the Humble Pipe Line Company investigated the legal questions involved and advised that under the statutes of the State and the decisions of the Supreme Court and Courts of Civil Appeals the State of Texas had granted the right-of-way across the bays and waters involved and that with a permit from the federal government, which was obtained, the company had a legal right to lay its pipe line across said bays.

"For many years, pipe lines have been laid across public waters, bays and inlets of the gulf for various purposes, and are now being maintained. So far as we know, no special authority has ever been granted, and, so far as we know, this is the first time the legal right to do so has ever been questioned. This company would not have undertaken to lay these pipe lines or make this great development in Corpus Christi Bay if it had not believed that it had an absolute legal right to do so in the performance of a public service.

"The District court in which the suit is pending has issued an injunction ordering all work stopped, and in obedience to that injunction the entire force of more than 800 men has been laid off. The company has taken an appeal from the court's order and anticipates an early decision of its legal rights."

Humble's Statement on West Texas Situation

Houston—An official of the Humble Oil & Refining Company, in discussing the matter of contracts for crude in the University field, in West Texas, say that it is a "tempest in a teapot."

"There are only three concerns involved, none of them being a regular customer of the Humble," he said, "and after personal discussion of the matter with these concerns by the Humble and considering the fact that sale of their properties was involved, for which reason these concerns did not care to contract their production over a long period, the Humble expressed its willingness to take care of them for a reasonable period of time until they could dispose of their properties, or make other desirable disposition of their production.

"The Humble today is continuing to purchase and run this crude."

Tulsa—Streeter & Stearns' Mermis 1, the new sand discovered in Russell County, Kansas, located in the southwest of the northwest of the southwest of section 33-13s-15w, was shut in late last week awaiting line connections of Sinclair Pipe Line Company. Swabbing 50 barrels an hour for two days after completion had filled all available storage. The oil was showing 1.6 per cent sulphur under test. Corrected steel line measurement on depth is 3316 feet and production is from the base of the Oswalt lime, in a limey conglomerate.

Tulsa—Skelly Oil Company has made location for a test at Lost Springs, Kansas, Marion County, which will be drilled in the southwest of the northwest of the northwest of section 22-17s-4e. It offsets Prairie Oil & Gas Company's Anna Mowrer 1 well.

Wildcats Feature Gulf Coast Activity

Gulf's producer east of Mississippi still shut in; producer at Allen Dome; drill into salt in Vermilion Bay test

By JACK LOGAN
Staff Representative

HOUSTON, Texas — Following closely in the wake of the recent oil discoveries in Austin County, Texas, and in Ascension Parish, Louisiana, several additional important disclosures were made in the Gulf Coast Country during the past week through exploration work. These developments included completion of a 1500-barrel well at Sweet Lake, Louisiana, by the Pure Oil Company, drilling into salt on a new seismograph-discovered dome in Vermilion Bay, Louisiana, by the Louisiana Land & Exploration Company, and developments at Allen Dome, Brazoria County, Texas, where one of Roxana Petroleum Corporation's tests blew out and another came in flowing by heads, producing oil at the rate of about 1000 barrels a day.

Sorrento Dome

Gulf Refining Company's United Lands Company 4, which was completed a little over a week ago as the first producer on the McElroy-Sorrento dome, Ascension Parish, Louisiana, is still shut in, pending the construction of storage. The company is building five 1000-barrel tanks and some earthen storage, and until some of this storage is available for use, when a real test of the flow of the new well can be made, no definite idea as to the possibilities of its production can be formed.

It will require an unusually long time to get things in shape to test the well for the reason that the only means of ingress and egress to the location is a pathway that has been built through the swamps, and construction work will be slow. All equipment needed to handle the well when it is opened up has been shipped, including a gas separator.

The Gulf Refining Company is now rigging up on a new test, the United Lands Company 5, which is 400 feet due west of No. 4, both being in section 15-10s-4e, about six miles east of the Mississippi River and 30 miles from Baton Rouge.

No large drilling campaign is to be expected in the area, since the discovery company, Gulf Refining Company of Louisiana, has all acreage within a large radius of the new producer. Gulf's total holdings include 4150 acres—all of sections 10, 11, 14, 15, 22 and 23 and some additional leases.

Completed at 1660 feet about a week ago, the well was allowed to flow only 15 minutes, because of lack of storage, and during that time it produced at the rate of 4500 barrels a day. The oil tests 26 gravity, being slightly lighter than the average run of Gulf Coast crude.

The No. 4 was the fourth test drilled in the district since indications of a salt dome were found by means of the seismograph early in 1927, and is the first producer of the area, although the United Lands Company 1, first of the four tests, had a gas blowout which resulted in a crater 75 feet in diameter, in which a 114-foot derrick and all other equipment except the boilers were destroyed. Drilling of the No. 1 had been started about the first of May, 1927.

Before a salt dome was outlined in this district, two wildcat tests were drilled by the Empire in 1925. The first was drilled to 4000 feet and abandoned as a failure after a show had been passed up around 1200 feet, and the second test, drilled to that showing was a dry hole.

Austin County, Texas

Humble Oil & Refining Company's Gotosky 2 at Raccoon Bend, Austin County, Texas, is still flowing about 250 barrels of oil a day. No new locations have been made around the well. Humble is drilling around 1150 feet in its Stravoski 1, located in the same district. The Gotosky 2 was completed for 300 barrels initial at 3279 feet last week, and is the first well of the field that has been drilled deeper than around 1000 feet.

New Sweet Lake Well

Last Friday night Pure Oil Company made a producer of its Sweet Lake 5 at Sweet Lake, Cameron Parish, Louisiana, the depth of the hole being 5660 feet. Flowing through a one-half-inch choke, its initial production was 1500 barrels of 29 gravity pipe line oil, the rock pressure being 800 pounds. The flow was later cut down to a three-eighths-inch choke, and the pressure built up to 1500 pounds. The production is coming from 15 feet of sand. This is one of the deepest wells in the Gulf Coast, and at present it is the only producer in the Sweet Lake district. Pure's Sweet Lake 3, which is 5897 feet deep and the deepest producer of the Gulf Coast, sanded up during the past week, and efforts are being made to get it back on production. The No. 3 was completed about a year and a half ago, and has sanded up several times since then. Pure's Sweet Lake 4 is reaming at 5905 feet.

Vermilion Bay

At the shallow depth of 808 feet, the Louisiana Land & Exploration Company drilled into salt in its A-1 test in Vermilion Bay, Iberia Parish, Louisiana. Indications of a salt dome were discovered in that locality early last fall, when the above named company was conducting an extensive seismograph exploration program. Before finding indications of the dome the Louisiana Land & Exploration Company had drilled the Vermilion Bay 1, about three miles from the location of the A-1, and had abandoned it as a failure. The Vermilion Bay A-1 is several miles from land, at a point where the water is about 15 feet deep. It is about three miles southwest of Cypremont Point, and about 26 miles southwest of the town of Franklin.

Although it has been rumored that a very thin layer of cap rock was penetrated immediately above the salt, information from the offices of the company that drilled the well was to the effect that no cap rock was encountered. In this test the Louisiana Land & Exploration Company will continue to core about 200 feet, and location for a new test in the immediate vicinity will be made this week.

The drilling of the Vermilion Bay A-1 has been unusually slow and expensive, because of the difficulties of operating a long distance from land in water which has been turbulent a considerable part of the time since the test was started early in October, 1927.

Allen Dome

The second well which has produced oil at Allen Dome, Brazoria County, Texas, was completed during the past week by Roxana Petroleum Corporation, but after making oil for about three hours at the rate of 1000 barrels a day, it began producing only dry gas. This new producer is the Allen 4, the total depth of which is 4915 feet. Following the cessation of oil production, preparations were being made to bail.

The Allen Bernard was the first test to find production at Allen Dome, its depth being around 5340 feet. It has never been a commercial producer, however, its production of 25 to 50 barrels a day having been intermittent and dependent upon repeated work on the well, coming to the surface in the form of a spray.

Shortly after the completion of the Allen 4 during the past week, the Randon 1 unexepectedly blew out, making dry gas, the depth of the hole being 4932 feet. As a result of the blowout it bridged over, freezing the drill stem.

New Areas Added to Take Up Seminole Decline

Two strikes in week in districts heretofore not looked upon with much favor; drilling in Burbank area

By WALLACE DAVIS
Staff Representative

TULSA.—The plot thickens at Seminole with continued general declines in the old, proven area being offset by operators stepping out of former confines of the area branded dangerous to add productive spots that apparently will link up with the center zone of gusher oil. Within the past week, two such strikes were made.

Mid-Continent Petroleum Corporation, Monday, apparently had opened a new major area, when its McCullough 1 wildcat, in the northwest corner of the southeast quarter of section 25-7-4, found the Simpson at 4139 feet, and after drilling to 4165 feet made a flow of 50 barrels. It was immediately shut in awaiting storage. The well is one mile south of the southern end of production in the old Maud field that produces from Hunton lime at around 3600 feet. It is about 5½ miles east of the Pearson field, also a Hunton lime producing area, and is approximately eight miles south and three miles west of Barnsdall's discoverer in section 14-8-5. It is the first Simpson sand producer in this vicinity, and forecasts the development of big Wilcox production. The Mid-Continent has 80 acres on which the well is located, touched by offsetting leases of the Prairie Oil & Gas Company, Gypsy Oil Company, Sinclair Oil & Gas Company and Amerada Petroleum Corporation. Further out than these direct offsets there is acreage held by most of the leading Mid-Continent operators, and bringing the well under some class of proration, granting it proves a strong producer, would be the only means of preventing rapid, competitive drilling of the newly discovered spot.

Four days prior to Mid-Continent's discovery south of the Maud area, I. T. I. O. stirred Oklahoma operators by encountering what geologists believe is Viola lime production in the Pearson pool, where former crude has been produced from the Hunton lime. I. T. I. O.'s Sullivan 1, in the southwest of the northwest of the southeast of section's Morris 1 wildcat, located in the and one-half hours on completion from the Viola topped at 4204 feet, and penetrated nine feet. It was shut in pending construction of a line.

Mid-Continent Petroleum Corporation's Morris 1 wildcat, located in the northeast of the southwest of the northwest of section 29-10-9, in the old Bearden gas field of Okfusgee County, which early last week opened the first oil production in Hunton lime in the area with 200 barrels cutting two and one-half per cent water, showed water increasing during the week. Its greatest significance is to add to the fact that this near-Seminole country is yet far from being well developed, even in territory drilled for many years.

Prairie Oil & Gas Company upset the dope at Earlsboro late last week, making an initial yield of more than 6000 barrels from Wilcox sand at 4337-47 feet. After three days of producing, it continued increasing, and Monday morning showed 7097 barrels for the past 24-hour gauge. It is located on the ragged edge of production on the southeast side of Earlsboro, and is offset by two wells which have been comparatively insignificant in size. To the south of it, two wells are drilling which will determine possibilities for extending this end of production. It points to a possible connection between Earlsboro production on this end and the Gypsy Oil Company's Doser wildcat discoverer in section 7-8-6. While these two points are separated by two dry holes, this fails to condemn production possibilities for linking up, as dry holes have ceased to have considerable bearing in Greater Seminole.

Production dropped to a new low mark at Seminole late last week, reaching almost to the 321,000-barrel level, only to be boosted back over the week-end with Prairie's new producer. For the seven-day period there was a loss of 6953 barrels with the gauge of February 6. A field review last week showed only 94 wells drilling, and more than one-fourth of these had fishing jobs. With this decline in active locations and the decrease in many old wells, there are almost as many wells being plugged as there are new ones completed. Production gauge of Monday morning is compared with that of Sunday morning, and the gauge of January 30, with the number of producing wells for February 5, as follows:

Field	Wells	Feb. 6	Feb. 5	Jan. 30
Earlsboro	291	119,591	117,484	117,128
Bowlegs	307	92,320	93,676	97,569
Seminole City	319	57,367	58,234	59,526
Little River	96	35,155	34,188	37,115
Searight	71	18,748	18,728	19,109
Maud	2	389	353	204
Total	1,086	323,570	322,663	330,523

I. T. I. O. Company's wildcat discovery in Section 16-8-5, which plugged back from water in the Wilcox at 4299-4306 feet to the Simpson at 4290 to make about a 200-barrel well, is reported not prorated at present, since the production does not justify pinching it to a smaller flow. Barnsdall's Fife in section 14-8-5 is continuing to be opened weekly, flowing approximately 700 barrels.

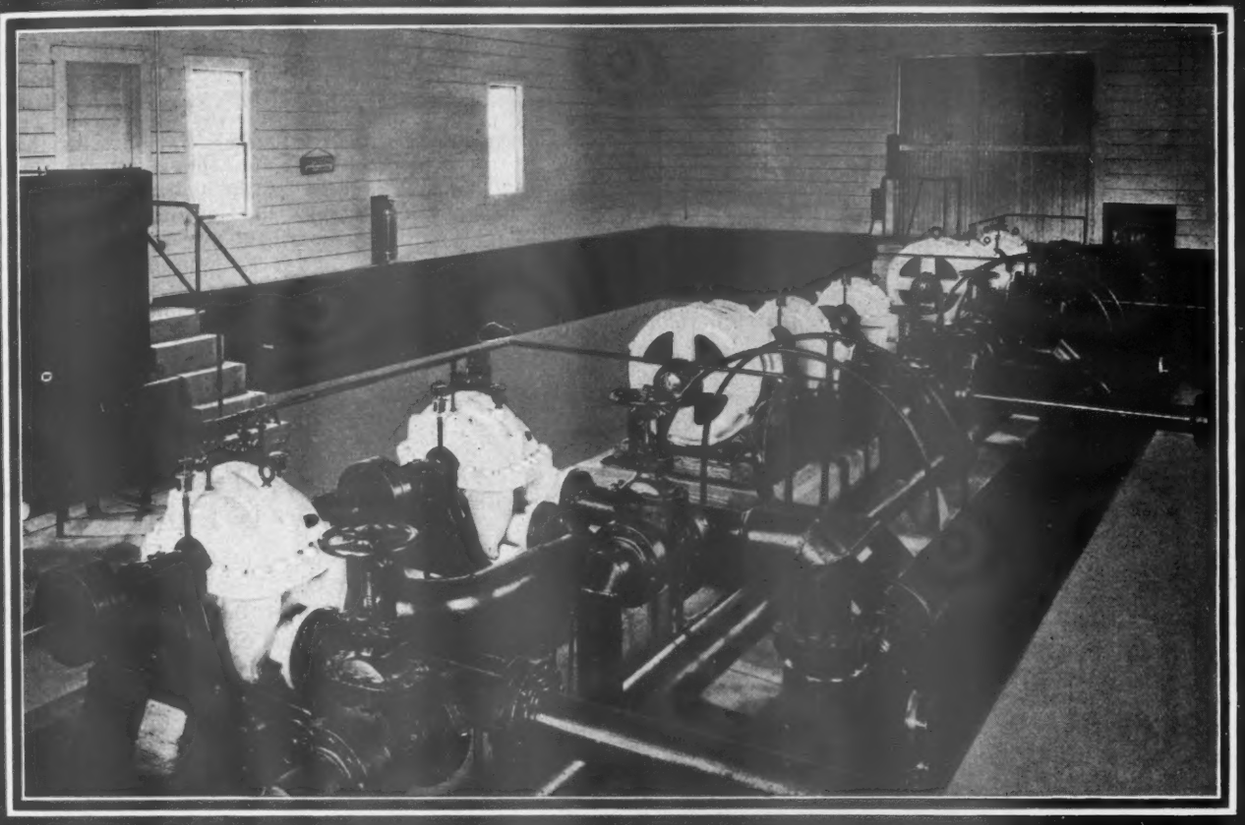
Of outstanding significance in the Western Oklahoma development last week was the encountering of what appears commercial production in Marland Oil Company's Looman 1 wildcat, in the northeast corner of section 9-20-4w, southern Garfield County. It was reported making two flows of oil from black shale at around 5730 feet. Drilling has been under way approximately two years in this wildcat, and considerable importance is attached to the location due to its position between the Garber field and the deep pay being developed in the Roxana pool of northwestern Logan County.

Sinclair's Knecht 1, in section 28-18-4w, six miles south of the Roxana's deep production, late last week encountered salt water at 6277 feet in sandy lime, and was drilling ahead. Texas Pacific Coal & Oil Company's Rahe 1, in section 27-18-4w, showed oil and gas in sand found at 6263 feet, and was drilling ahead February 3.

Roxana's McCully 1, discovery well in section 30-19-4w, is still making more than 2100 barrels of oil and a heavy flow of wet gas. Roxana's Ross 1, section 29, flowed approximately 700 barrels, and Williams 1, section 32, flowed 690 barrels daily near the close of the week.

Sixth Sand at Oxford

Roxana has discovered a sixth producing sand southwest of Oxford, Kansas, its Rothwell 2, in the northeast of the southwest of section 14-32-2, making 200 barrels from 1645-55 feet. It is drilling deeper to the Stalnaker at 2000 feet. Oxford pool production showed a daily average for last week



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of 14,015 barrels from 50 wells, and 20 wells were drilling. The Churchill pool, four miles north of Oxford, had 12,295 barrels average from 57 wells, and eight wells were drilling.

Chiefly as an outgrowth of the extensive drilling campaign along the eastern edge of Burbank field, an increase is shown in Oklahoma in field operations for the week ending January 25, as compared with the previous week, there being 928 against 923. Approximately 40 active locations at Burbank are on acreage bought at the December 12 Osage sale, and more than a dozen completions in this sector within the past six weeks have raised production in Burbank near the 40,000-barrel mark.

A decline of five operations is shown in Kansas during the two weeks, as is outlined in the accompanying table of Oklahoma and Kansas activity.

OKLAHOMA-KANSAS FIELD OPERATIONS

	January 25						January 18					
	Lcn.	Rigs	Drlg.	S.D.	Comp.	Total	Lcn.	Rigs	Drlg.	S.D.	Comp.	Total
Osage District:												
Burbank	..	8	38	..	4	50	..	13	38	..	3	54
Outside	4	6	23	3	4	40	6	5	24	2	..	37
Other Districts:												
Ponca City	7	4	43	21	8	83	6	6	40	23	7	82
Enid	4	4	32	18	..	58	5	3	35	15	..	82
Cushing	4	9	37	8	7	65	4	11	39	9	3	66
Shawnee-Seminole	13	28	156	18	18	233	14	25	171	15	12	237
Muskogee	..	6	41	24	8	79	..	11	41	19	11	82
Lawton	4	5	52	15	7	83	3	3	49	16	10	81
Ardmore	5	11	59	21	6	102	6	6	61	20	4	97
Tulsa-Okmulgee	10	29	64	18	14	135	9	27	65	22	6	129
Oklahoma total	51	110	545	146	76	928	53	110	563	141	56	923
Kansas	34	63	111	61	26	295	38	61	118	64	19	300

Judge To Rule on Stewart Contempt Charge

Washington—Disputing the authority of the senate to punish him for refusing to answer questions of its oil committee, Robert W. Stewart, chairman of the Board of the Standard Oil Company of Indiana, brought his attorneys in direct clash with those of the government, and early in the week his counsel was attempting to keep him from having to appear before the Senate to answer contempt charges. On Tuesday the decision was in the hands of Justice Jennings Bailey in the District of Columbia Supreme Court.

Stewart's return was demanded by the Senate from the court so that the contempt proceedings might be prosecuted without delay.

The Standard of Indiana official refused to tell the Senate committee anything about what became of the Liberty bonds bought by the Continental Trading Company of Canada. He also refused to assist the committee in its search to determine the disposition of the $3,000,000 profit alleged to have been made by the same company under the now-famous $50,000,000 contract. Even under a gruelling examination by members of the committee he stood firm against divulging pertinent information. On many points he talked willingly enough, but when it came to answering the question of whether or not he had talked with Harry F. Sinclair over the disposition of the profits of the trading company, he stopped. He declared that he could not enter that field of discussion with the committee because of his obligation first to tell his story before judge and jury in the Fall-Sinclair trial.

"Did you know anything about the purchase of Liberty bonds by the Continental?" one of the questions propounded by Senator Walsh, met with the reply of Stewart, "repeating what I said before, I don't think I should answer."

When the Senate was about to mete out punishment on him for refusing to answer the questions put by its committee, Stewart obtained a writ of habeas corpus, and it was this writ that Justice Bailey was considering.

Stewart's counsel maintained that Stewart was under a subpoena of the Senate committee and that his arrest for the purpose of bringing him before the bar of the Senate was illegal. It was also maintained that the questions asked related to "a purely private matter in which the senate could have no concern." Counsel argued that the court could not order the arrest of a witness until he had refused to obey a subpoena.

"Suppose a witness on the stand in a court refused to answer a question, do you contend that he could not be arrested?" asked Justice Bailey.

"In that case the witness would be adjudged in contempt of court before arrest," Stewart's defense replied, and he added that this was not the situation in Stewart's case, inasmuch as the arrest had been ordered with no charge against Stewart.

Government Leaves Line Across Public Land

Casper, Wyo.—Department of the Interior ta Washington rescinded its order to cancel the right-of-way agreement with the Sinclair interests for the pipe line through Wyoming because it was confronted with no market for its royalty oil if the pipe line was abandoned.

Sinclair Crude Oil Purchasing Company has a contract for the purchase of the government's royalty oil in the Salt Creek field in addition to that of running oil for the government from the Teapot Dome. Had the line been abandoned the government would have had to sell its royalty oil to local purchasers, or be confronted with storing the same. However, inasmuch as there is a differential of 45 cents in the posted price of crude petroleum in the Rocky Mountain region with that in the Mid-Continent, it was to the advantage of the government to retain the pipe line in order to command Mid-Continent prices for its oil. Had the line been removed, there would have been a loss to Wyoming of taxable valuation of more than $8,500,000. It would also have resulted in a decrease in the price of the State royalty oil, as well as losses to producers in the Salt Creek field.

Repollo Test in Colorado Is Failure

Denver, Colo.—Failure of the Repollo Oil Company's test on Parallel Dome, near Boulder, to get anything but water at 6147 feet has been a great disappointment to the oil fraternity. The Repollo is a Sinclair subsidiary and the failure of the test probably means that the Sinclair interests will withdraw from all operations in the Rocky Mountain region inasmuch as the company will have no further operations outside of Salt Creek to maintain and has no known intention of conducting wildcatting.

The Repollo well had a good showing of oil in the Hygiene sand, a much shallower horizon than that in which the test is now bottomed.

Another well on the same structure is being drilled by Essock Oil Company. It has been standing for some time at 5230 feet, awaiting the completion of the Repollo well. The Essok location is said to be 100 feet higher than the Repollo, and it is probable that it may be drilled to the Muddy sand.

Completion of Magnolia Loop March 1

Dallas, Texas. — Good progress is being made on the welding of the new 10-inch crude line running parallel to Magnolia Pipe Line Company's trunk line system between Corsicana station and Beaumont, a distance of 240 miles, and the completion date is set for about March 10. A single gang of welders began work on this line January 1, and since that date three more gangs have been added, with the result that 58 miles of line was completed during the first month. Because of crude congestion at the Corsicana station, Magnolia has begun using the first unit of the completed 10-inch carrier between Corsicana and Wells tank farm, located in Mexia district, and is pumping about 32,500 barrels daily into the above farm.

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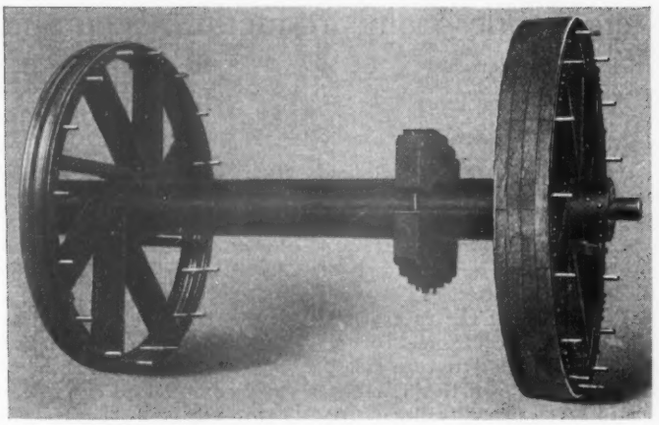
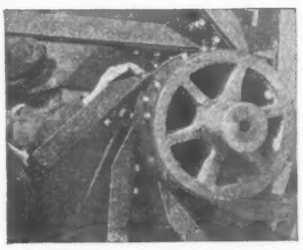


Moore Steel Bull Wheels Conform to A. P. I. Dimensional Standard



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California Wildcat Producer Opens New Field

Pacific Eastern gets 600 barrels in well northwest of Bakersfield and eight miles from production; deep sand at Seal Beach less promising

By BRAD MILLS
Staff Representative

LOS ANGELES.—A new oil field has been discovered near Fruitvale, a few miles northwest of Bakersfield, by the Pacific Eastern Production Company, a subsidiary of the Gulf Oil Corporation. The well flowed last Saturday at the rate of 600 barrels, but with only 15 feet of oil sand, production may settle to a smaller figure. Total depth of the new producer is 3850 feet, with a string of 10 inch casing cemented at 3835 feet. The company made no effort to include more than 15 feet of sand. The well started flowing by heads soon after the swab was run. When the fluid was swabbed from above the 2200-foot level, oil immediately rose to the top of the hole. The flow is not yet regular and it is too early to state definitely whether the well will produce naturally at its present rate. Officials of the company said that the well should produce at least 300 barrels on the pump. The oil is 24 gravity and shows practically no cut. The casing pressure is more than 300 pounds.

In locating its well at Fruitvale, the Pacific Eastern Production Company violated an old precedent. The test is located in the bed of the valley, several miles from the folds along the eastern fringe. There has long been a belief that little oil would be found in the bed of the valley, since the newer fill is not supposed to be a good trap. The well is located on section 21-29-27, which is about eight miles from the nearest production.

The customary scramble for leases followed the discovery, although the acreage was rather closely held. The Pacific Eastern interests hold a large block of land near the well. A large development program is not anticipated, however.

Five completions in the Long Beach field added about 8000 barrels of new production and revived the question of what may be expected of the area during the spring months. Following several weeks, during which very few wells were completed and production decreased appreciably, the completion of five fairly good wells breaks the suspense that has prevailed during the period. The operators have had much mechanical trouble, which should be expected at such a depth, but which was discounted somewhat in the beginning. It has developed that many wells which were not in a position to be carried down successfully are being deepened in various parts of the field. Many wells are also being taken to the lower levels with equipment not well suited to drilling below 5000 feet. Lack of experience in drilling to the lower levels has also taken its toll. When the various shortcomings are summed up, we have at least one good reason why completions have been effected far below schedule. It is still dangerous to estimate the peak production for the entire field, but at this time 150,000 barrels seems high enough. About 135 wells are active. Thirty-four deep wells are producing about 45,000 barrels of the total production. The 490 old wells are producing only 73,000 barrels. The average production per well of the deep sand producers has dropped to 1400 barrels.

Dabney-Johnston's Schneider 2 was the best completion of the week, with an initial production of 2400 barrels. The well gradually increased its production from 1800 barrels. Total depth is 6077 feet. The oil was 24.6 gravity and cut two per cent. The gravity was unusually low for such a depth. The well is located in the eastern part of the field and near some of the first large completions. Dabney-Johnston's Casenave 4, near the Lovelady pool, was completed as a 1200-barrel well at 5515 feet. The oil was 29.2 gravity and cut 1.8 per cent. The completion of these two wells gives the Dabney-Johnston interests an enviable position among the independents.

The McKeon Drilling Company successfully completed Ellis 3, at 5595 feet. The well came in with an initial production of 1800 barrels of 29.1 gravity oil. The cut was very low, having shown only 0.6 of 1 per cent.

The Shell Company's Cresson 11 was by far the deepest completion of the week, having been finished at 6356 feet. Initial production was 1500 barrels of 30.6 gravity oil, cutting 4 per cent. The well is producing nearly 5,000,000 feet of gas.

The Pan-American Petroleum Company's McKeon 1, a workover, was completed at 6083 feet, with a production of 1000 barrels. The oil is 30.9 gravity and is cutting 3.5 per cent. The well is located in the east end of the field.

Seal Beach

Marland Oil Company's Selover 16, the second deep sand completion in the Seal Beach field, Monday was flowing about 700 barrels. The oil is 29 gravity and cuts only 4 per cent. The well is much smaller than anticipated and does not seem to warrant an extensive drilling campaign. Total depth is 6606 feet. Marland's Selover 11 was tested and found wet, and will be recemented.

The deep sand at Seal Beach does not hold as much promise as first thought.

Rincon

Some of the operators in the Rincon field are anxious to ignore the oil sand found between 2400 and 3200 feet, and explore the lower levels in the hope of finding a more dependable zone. At least one large operator does not favor the move, and wishes to utilize the discovery sand. If the upper zone were not recognized, it would not be necessary to case it off. The State Mining Bureau now recognizes the discovery sand as a commercial zone, and probably will not agree to having it cast aside as worthless. Present developed production is about 1500 barrels. The sand is far from an ideal producing body but may prove its value in certain parts of the field.

Ventura Avenue

Although completed a week ago as the deepest producer in the Ventura field, the Associated Oil Company's Dabney-Lloyd well is producing far below its initial rate. The remarkable well was completed at 7032 feet with an initial production of 1200 barrels. Production declined rapidly to 400 barrels, a quantity somewhat out of line with the cost of drilling such a depth. Gas production is considerably below 1,000,000 feet, but is sufficient to flow the well at its present rate. The company has no intention of killing the well. The completion of the Dabney-Lloyd well pushed the line of production considerably to the east and added greatly to the value of the Associated's holdings. Another well is being drilled still farther east. About six months are required to drill a well to the 7000-foot level in the Ventura field. Many of the shallower wells have been completed in four months, however. There is a gradual tendency toward deeper drilling, due to the thickness of the

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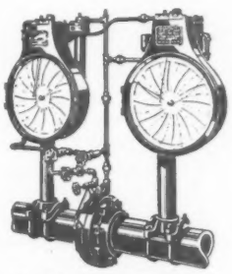
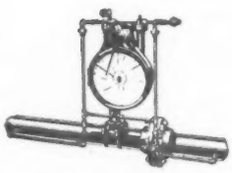
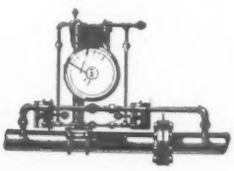


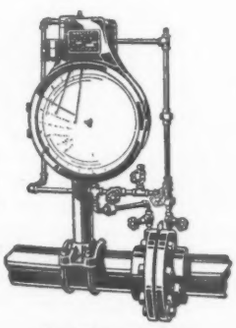
Combined Installation for Measuring Variable Rates of Flow



Installation for Measuring Water or Light Oils—2½ and 8 Pipe Diameter Connections



Heavy Oil Measuring Installation



Installation for Gas (Flange Connections)

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producing sand. Production from the field has shown a gradual decrease since the wells were allowed to produce at a maximum rate. New production is expected to offset any appreciable decline during the spring months. About 30 wells are drilling and completions should be effected at the rate of about one per week. The Shell, Associated and Petroleum Securities practically control the field. Independent interests are not active in developing their holdings.

Cat Canyon

Another well has been completed in the Cat Canyon field by the R. & G. Oil Company, one of the oldest operators in the area. The company's No. 7, section 30-9-32, was finished at 3330 feet with an initial production of 300 barrels. The well was immediately placed on gas lift, which has been unusually successful in all parts of the field. The Cat Canyon field produces an unusually heavy, viscous crude, which finds a ready market.

The Elberta Oil Company's Edna 1, which recently opened up an entirely new producing area in San Luis Obispo County, has been taken off production for a short time. The well will be cleaned out thoroughly and tested again. The initial production test was considered satisfactory, but the operators believe that the well has a chance to flow on its own initiative if cleaned out properly. Pumping equipment was installed, but was used only to aid the flow. The well averaged more than 200 barrels for more than a week. Such a porduction at a depth of only 3150 feet is very attractive and has created a good demand for the few available leases nearby. Large blocks of acreage are already held by prominent oil companies.

Kern Front

Development of the Kern Front field continues at a rapid but consistent rate. From one to four completions have been reported weekly for several months, bringing the total number of new producers far above that of any other field in Northern California. The initial production of the average well has been small, when compared with the record of completions in the more prolific areas of the State; but Kern Front producers taper off gradually, and after a few months produce at a very consistent rate. Four wells were completed during the past week. The Chanslor-Canfield Midway Oil Company's No. 14, section 23-28-27, was the best well of the week, having been completed as a 200-barrel producer at 2195 feet. The well was originally drilled to 2276 feet, but plugged back to the more favorable level. The oil was 14.4 gravity and cut more than 15 per cent, an unusually high figure for that part of the field. The Standard Oil Company completed No. 19, section 15-28-27, at the somewhat unusual depth of 2600 feet. The well produced 130 barrels on the initial test. The usual run of completions are finished between 2000 and 2400 feet, although the depth and thickness of the producing sand vary slightly in various parts of the field. The General Petroleum Corporation and the Petroleum Securities Company each completed a well during the week. The former's Wetmore 12, section 14-28-27, was completed at 2025 feet with an initial production of 140 barrels, while the latter's Robinson 9, section 22-28-27, was a 150-barrel producer at 2550 feet.

Round Mountain

As the result of two completions in the Round Mountain field, the Honolulu Consolidated Oil Company has again become very active. Drilling has been resumed on all wells on section 18-28-29. Cable tools are being tried in an effort to reduce the expense and trouble of obtaining a supply of water and mud. The field is only a few miles from the Kern River, but the grades encountered are very sharp. The slightly faulty condition of the formation above producing sand causes large quantities of mud to be lost when drilling with rotary equipment. The company's first completion, and one of the three wells in the field, produced at the rate of about 500 barrels before being shut in for lack of storage. The Shell Company's Jewett 1, section 29-28-29, formerly reported as a 50-barrel completion, has increased its production to almost 100 barrels of clean oil. The well is unusually shallow, having been completed at 1390 feet.

Basin Quiet

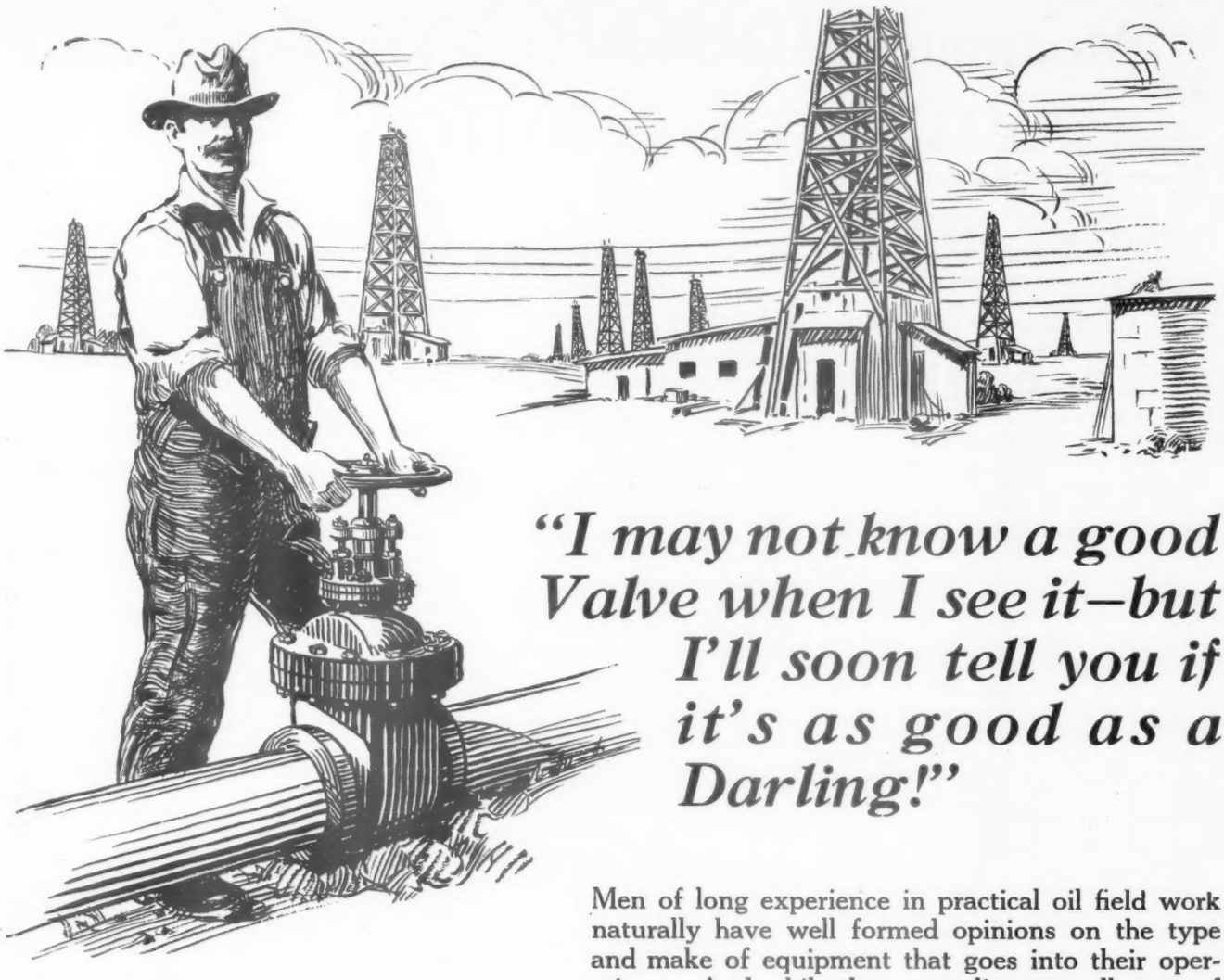
The settled fields of the central Los Angeles basin are very quiet. Routine development in the Torrance, Huntington Beach, Dominguez, Athens-Rosecrans and Inglewood fields has been completely overshadowed by the more spectacular fireworks in the Long Beach and Seal Beach areas. Santa Fe Springs has also been relegated to the list of dull fields. Several good recompletions have been made in the Athens-Rosecrans field, but the deepening program is being carried out on a rather modest scale. The Union Oil Company has recompleted Rosecrans 2 at 4940 feet, with an initial production of 175 barrels. The oil is only 23.8 gravity and is cutting 50 per cent. The Huntington Beach field, with a total of 565 wells, is producing slightly less than 60,000 barrels. Two new wells were completed during the week, but they failed to offset the natural decline. The Standard Oil Company recompleted Pacific Electric 13 with an initial production of only 50 barrels. The well was drilled to 4355 feet, but failed to respond from the lower levels in a very satisfactory volume. The H. & P. Oil Company did much better in the completion of Y-L-2, which produced 400 barrels on the initial test. The well was completed at 3960 feet and is producing a 16 gravity, clean oil. The new producer showed some signs of flowing, but was placed on the pump. The Standard Oil Company has been unable to satisfactorily complete W. C. 20, in the Santa Fe Springs field, due to water encroachment at two levels. The well produced 60 barrels of oil and 70 barrels of water on the initial test. Water is entering the hole around the 6⅝-inch casing at 4675 feet, and a recent test of the 9-inch string showed a similar condition at 4440 feet.

The small fields along the eastern edge of the Los Angeles Basin showed little change during the week. The Union Oil Company completed three wells, one a re-drill, in the Richfield area, reducing the number of drilling wells to less than a dozen. Stern 11 was completed at 4325 feet with an initial production of 110 barrels, Y. L. G. 17 was a 225-barrel producer at 3130 feet, and Y. L. G. 12, a workover, was recompleted at 4510 feet with a production of about 225 barrels. The Standard completed Baldwin 71, in the Montebello field, with an initial production of only 45 barrels. The well was drilled to 3350 feet. The oil is 20.2 gravity and cuts about 31 per cent. Water has caused some trouble in the Montebello field for some time, particularly in the edge tracts.

Buttonwillow District Development Extended

Taft, Calif.—The Buttonwillow district will be tested in several places during the year, if present plans are carried out by the principal operating companies. The Southern California Gas Company has already started a well on Section 4-28-31, while the Milham Exploration Company's Salisbury 1, Section 7-29-24, has been taken over by the Doheny-Stone Drill Corporation and will be deepened from 4140 feet. Two large gas wells have been drilled in the district. This immediate area is regarded as a possible gas supply for cities in the northern and central part of the San Joaquin valley, as well as for San Francisco. Several pipe lines have been proposed, but an adequate gas supply has not been developed. Two large companies are now working on plans for laying a gas line from the district to San Francisco, but the construction of such a project is entirely contingent upon the amount of gas developed.

Thermopolis, Wyo. — After having been shut in to half production for the last several months, Hamilton Dome, the black oil field west of Thermopolis, Wyoming, is again on full production. The Empire State Oil Company and the Argo Oil Company are delivering 1200 barrels per day to the Midwest Refining Company at Greybull for refining there.



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Say you saw it in The OIL WEEKLY

Mountain States Field Development Notes

Showings Encourage More Sweet Grass Tests

Great Falls, Mont.—Sunburst Oil & Refining Company's well on the southwest of section 10-37n-5e, Sweet Grass Hills, Flat Coulee structure, is reported to be drilling below 2881 feet, with a showing of 15,000,000 cubic feet gas additional to the oil production encountered at a shallower depth. The well is being carried to the Ellis-Madison contact, and indications are encouraging for a good production there. However, even though a producer should not be completed at the depth aimed at, it will not be of particular moment inasmuch as it has been proved commercially productive in the Kootenai, where the well might have been completed for 100 barrels had the operators chosen to stop there.

The success of the Sunburst well has led several new operators in the locality to announce their intentions for spring and summer operations. W. J. O'Haire, mayor of Sunburst and a prominent oil operator in the fields of this State, has filed on more than 6000 acres on the Canadian side of the structure, believing that the dome extends far north of the international line.

Bear's Den Oil Company will complete the next well in the Sweet Grass Hills on the Bear's Den structure, where a well is being drilled on a flank location. The crew is now running casing at 2400 feet, and the log reveals it to be 300 feet lower structurally than the Flat Coulee producer eight miles northeast.

Loy Oil Company has announced its intention of drilling three wells on Berthelote Dome in the Sweet Grass Hills. Company is now completing one well in this locality as a gasser, total depth being 2100 feet. The flow is estimated at 15,000,000 cubic feet, and has a moderate gasoline content. Capital stock of the company has been increased from 100,000 to 200,000 shares.

Montana Wildcats

Great Falls, Mont.—Many Montana wildcat operations have been permitted by improved weather conditions to resume activity. Many operators predict the bringing-in of several new fields in different parts of the State this summer. The discoveries in the Sweet Grass Hills and West Kevin-Sunburst have added substance to the predictions.

On Pondera Dome, S. C. Ferdig and associates have started rigging up their Jones 1, northwest of section 8-27-4w, and the Fulton Petroleum Corporation is resuming work on its State 1, northwest of 16-27-4w.

Round Butte Development Company is reported drilling below 350 feet in its test near Ronan, western Montana. An unusually heavy water flow was encountered at 288 feet and held up progress for a bout a week.

Community Drilling Company reports a depth of 3000 feet in its operation at the old wells drilled originally by Pioneer Oil Company to 2900 feet.

Dakota-Montana Oil Company will enter the Cut Bank area, after having recently secured a 3000-acre block on the Hagen structure, south and west of the town of Cut Bank along the valley of the Two Medicine. Through the influence of the tribal counsel and backed by the Montana delegation in congress an order was made by the Interior Department permitting the inclusion of some 17,000 acres of tribal lands that checker in the Hagan leases to be included within the lease block of the Dakota-Montana.

A. J. McLay, well-known drilling contractor in the Kevin-Sunburst field, has announced the intention of Oil Producers Syndicate to drill a second test on Last Chance structure on the Peterson farm. Last Chance is said to be one of the highest in the Sweetgrass Arch 35 miles north of Great Falls. A group of Canadian capitalists is reported to have invested $90,000 in the corporation.

New Company Plans Two Tests on Cane Creek

Moab, Utah.—A new company, the Moab Consolidated Oil Company, has been organized recently for joint opeartion with the Utah Southern Oil Company in the drilling of the two tests on Cane Creek dome and the one on Salt Valley anticline; these wells are to test out the salt dome theory of several geologists, and particularly of H. W. C. Prommel, of Denver, who has advanced it in explanation of the massive shale beds encountered on top of the structures in this region. As in the case of the Texas fields, it is believed that production will be encountered by drilling the flanks of the structure.

The new company, as is the case with the Utah Southern Oil Company, is closely identified with the Midwest Refining Company. It has taken over one-half of the Utah Southern Oil Company acreage on Cane Creek, Shafer, Lockhart, and Indian Creek structure (the four Colorado River salt domes) as well as one-half of the blocked acreage on Salt Valley anticline.

Utah Southern Oil Company and Moab Consolidated Oil Company are reported to be drilling below 100 feet in their joint test, No. 1A John L. Shafer on Cane Creek Dome, section 35-26-20. Crude oil from Frank L. Shafer 1, section 6-27-21, the discovery well of the district, is being used for fuel.

Phillips Petroleum Company has completed the road to within six miles of its location on Nequoia Arch, northeast of 16-27-16, and has equipment moved to the end of the road. Upon completion of the highway, the material will be moved in and the test started at once.

Rumor Building Refinery At Cody, Wyoming

Cody, Wyo.—During the last week a well-authenticated rumor was abroad here to the effect that an important oil interest planned to build a refinery here. One rumor connected German interests with the proposition, and another stated that the refinery would probably be built by the Royal Dutch Shell interests. It is stated that a representative of the Royal Dutch interests was in Cody recently and that it is thought that he made some tentative arrangement for a refinery site.

Operators in the Oregon Basin field are still waiting for the completion of No. 1 Klindt, southeast of the southeast of section 7-51-100, which is drilling slowly with a hole full of water. Total depth is below 3624 feet and some gas is reported to be coming up through the water; a greater showing of oil is also reported. There is a rumor in town that drilling may be temporarily suspended at the present depth and a test made by bailing and swabbing. It was announced, before the crew started to drill in, that the hole would be carried to the Tensleep formation before a test would be made, unless gusher production was found in the Embar formation.

Operations Increased

Great Falls, Mont.—Operations on the west side of the Kevin-Sunburst field have taken on added activity in the last two weeks, due to the completion of an excellent producer by Majestic Oil Company in this long-neglected area. L. V. Hungerford and W. J. O'Haire have contracted with the Madeline Oil Company of Minneapolis and Kevin for the completion of the company's wells on the 640-acre block in the west side; it is shut down at 640 feet. Equipment is being moved in and the well will be completed without delay.

Majestic Oil Company's well is producing about 400 barrels per day of high grade oil. Location is in 27-35-3w. Mill City Oil Company, 29-35-3w, is drilling at 1350 feet; Colonel-Kevin Syndicate is drilling at 500 feet on 27-35-3w; C. E. Tarrant, 28-35-3w, is drilling at 600 feet.

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DRILLING CONTRACTORS

MUSKOGEE, OKLA.

December 19, 1927.

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With the Super-Tractor Drive and Wheels, we moved the machine under its own power over the paved streets of Muskogee and over soft, newly filled ground right to the location. We find this Super-Tractor feature a great convenience as well as time and money saver.

This hole was drilled to a depth of 1960 feet, with 40 feet of 12-1/2 inch hole, 174 feet of 10 inch and 8-1/4 inch hole carried to a depth of 1773 feet, finishing with 6-5/8 inch. We made as high as 112 feet of hole in a twelve hour tower and there were several towers that we made approximately 90 feet.

The wire line spudder on this machine was certainly a revelation to us, for we spudded practically the entire depth and even with the wire line constantly running over the pulleys, believe there was less cable wear than on a beam machine. The spudder drilled the lime equally as well as beam machines and its much more efficient in cavey or muddy formations.

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We consider the No. 45 Star Spudder a distinct advance in drilling machinery and we have no hesitancy in saying that we are well pleased with the performance of this machine. It is well built, controls very conveniently arranged and can be quickly rigged up.

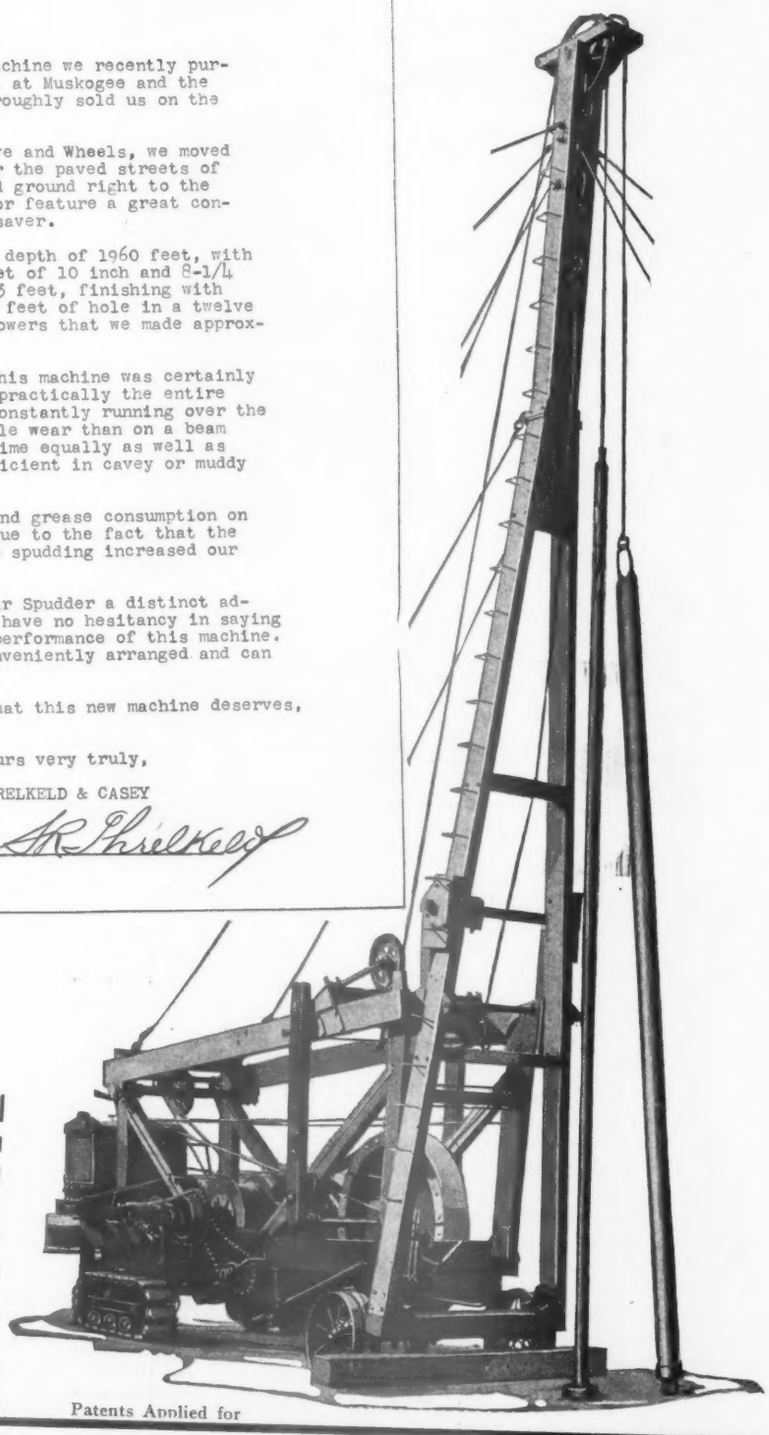
Wishing you the success that this new machine deserves, we are,

Yours very truly,

THRELKELD & CASEY

By J. R. Threlkeld

The New STAR No. 45ST.



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Oil Weekly

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Iles and Moffat Respond To Deeper Drilling

Denver, Colo.—Deeper drilling into the Sundance sand in the well on the Iles and Moffat domes in Moffat County seems to be justifying itself in the increased production obtained from producing wells. The Midwest Refining Company is completing its No. 34SD and expects to have a production of some 2000 barrels at the present depth, 3290 feet, 47 feet in the Sundance.

Texas Production Company has decided to drill its Knowlton 10 on Moffat Dome farther into the sand. It has been producing 150 barrels per day from the top of the Sundance, and it is believed that with deeper drilling the texture of the sand may change from its very hard condition, and that production may result. Company has spotted another location for a Sundance well on Moffat Dome, about 500 feet east of Knowlton 10.

LaBarge District

Kemmerer, Wyo.—Operations in the LaBarge district during the winter have been almost entirely shut down, with a few exceptions. Spring will doubtless see renewed activity both in the field and in adjacent wildcat structures, because of the projected pipe line from the field to railhead. Operators in the field have had to truck all production from the field in the past, and because of this there has been but little profit in crude from LaBarge.

The few operations which are still active this winter are making little progress. The Superior Oil Company's 3 is reported to be cleaning out; J. Minton is drilling at 1205 feet in his No. 1 on lot 1, 34-26-113, and to be drilling below 465 in the test on section 9-27-113. The Akin Butte Oil Company southwest of section 22-27n-113w, is still trying for a formation shut-off at 1370 feet, and Texas Production Company's Davis 1 is drilling at 1240 feet on 15-26-113. Circle Oil Syndicate's Fallis 1, 8-27-113, is reported to be resuming with cable tools. Wyoming Producers Oil Company, 35-27-113, is standing cemented at 1500 feet.

Casper, Wyo.—Minal E. Young, vice-president of the New York Oil Company, and the company's general manager, has announced that report emanating from Thermopolis, Wyoming, to the effect that there had been no contract for the sale of the company to the Midwest Refining Company interests, is incorrect and without foundation. Final closing of the sale will, of course, be held up pending the check-up of properties. Terms call for the cash payment of $6,000,000. Other considerations bring the cash and stock values for the sale to more than $15,000,000. It is expected that the transfer will be made early in March.

Four Completions Strengthen Champagnolle Prospects

SHREVEPORT, LA.—The productive possibilities of the Champagnolle field, in Union County, Arkansas, were considerably strengthened during the week by the successful completion of four wells, the largest of which was a 1000-barrel producer in 3000-foot pay sand in the vicinity of the E. M. Jones gusher.

E. M. Jones' Crain 2, section 2-17-14, heads the list of completions in the Champagnolle field during the week, in point of production. This well is in the opposite corner of the 40-acre lease upon which the original gusher well in this section of the field was drilled, and was completed at 3,012 feet, only two feet in the sand, blowing at the rate of 2500 barrels of fluid a day, 60 per cent salt water. The well only produced 600 barrels during the second day, with indications that it would soon be making almost entirely water. However, its successful completion is surprising in itself as it is offset by two dry and abandoned wells drilled by the Ohio Oil Company on the west and southwest, and a small gas well on the south. The same operators' Crain 4, situated in the northeast corner of the lease, offsetting the Ohio Oil Company's Crain 7 which is now pumping 75 barrels of net oil daily from a fluid output that is 75 per cent salt water, was also completed during the week. The initial production of this well was only 300 barrels of fluid, 75 per cent salt water and basic sediment, from 3067 feet. The Ohio Oil Company's Crain 6, section 1-17-14, was completed at 3031 feet, pumping 20 barrels of oil a day. The total gross fluid pumped from this well tests about six per cent basic sediment. This well is a direct offset to the same company's Pumphrey 1, now pumping approximately three barrels of oil daily. Activity in this part of the field is rapidly decreasing, while more and more attention is being directed to the area around Keene and Wolfe's Gregory well, in section 10-17-14, slightly more than a mile southwest. The Magna Production Company-Oil Well Corporation tested two wells in this part of the field during the week. Dumas 1, section 11-17-14, being brought in with an initial production of 20 million cubic feet of gas and a slight spray of oil, from 3069 feet, about 304 feet deeper than the Keene and Wolfe well, in eight feet of sand. Townsend 1, section 10-17-14, tested dry at 2751 feet, and was cored into salty sand at 2764 feet.

Three new tests have recently been started in the vicinity of the Champagnolle activity, including one which will be drilled by the Pure Oil Company, offsetting the Keene and Wolfe well on the south. Semroll et al are drilling near the center of section 12-17-14, approximately one mile east of the Keene and Wolfe and Magna wells in section 10, and an equal distance south of the Ohio-Jones wells in sections 1 and 2. This is the first well to be drilled in this part of the field. Dr. Rushing et al, drilling their Gregory 1, in section 11-17-14, an east offset to the Keene and Wolfe well, cored salt water at 2672 feet and is now drilling at a depth of 2719 feet.

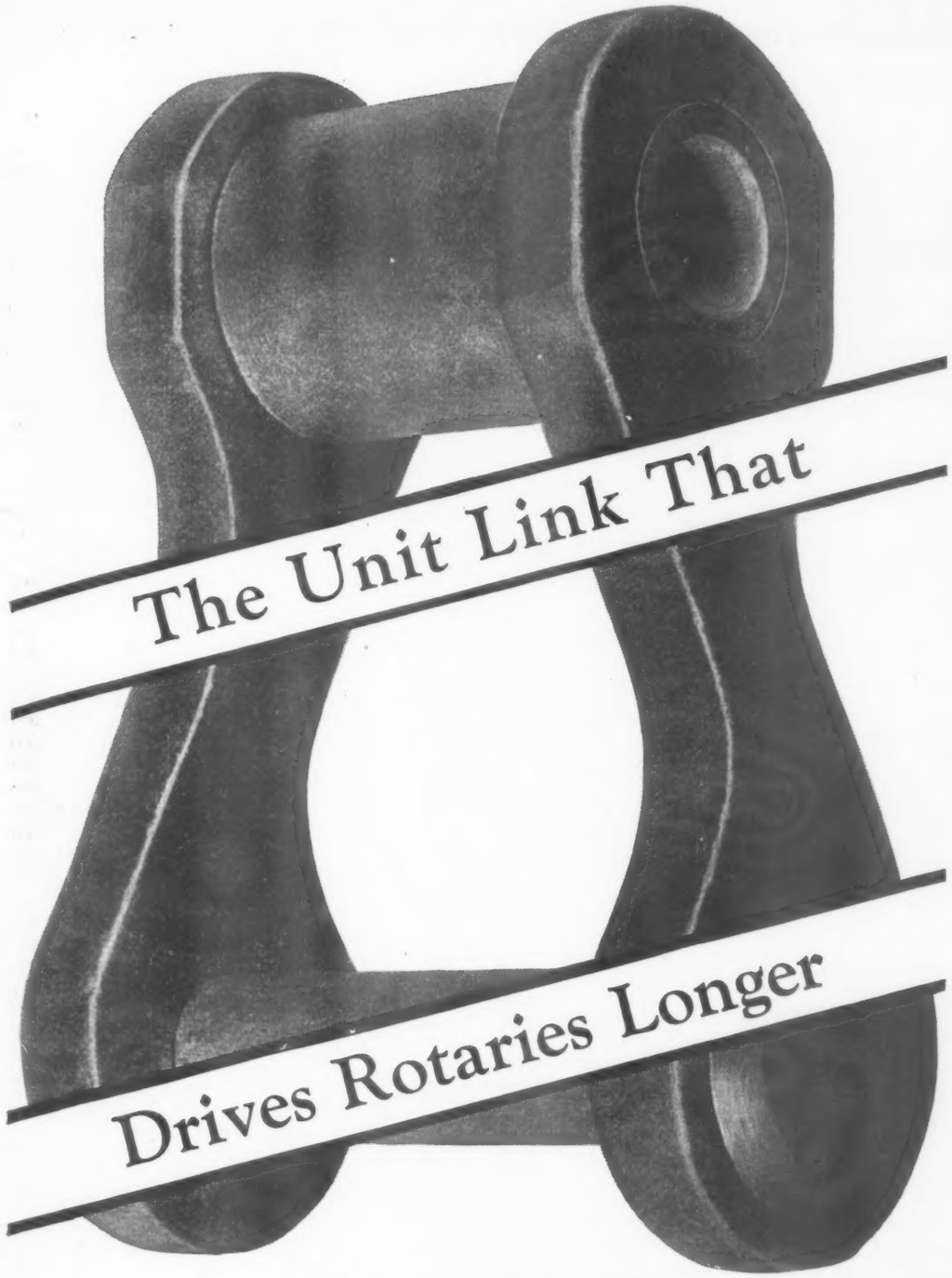
Almost a week was spent in bringing the Natural Gas and Fuel Corporation's Thompson A-1 well, located in section 21-16-6e, Richland Parish, under control, only to have it break loose again. In addition, it has now caught fire and is burning, with no hope for regaining control, except by drilling two offset relief wells. These wells will be started immediately.

This well threatened to crater several days ago, after it had been brought in as a 66 million cubic foot gas well, from 2477 feet, when it was closed in and found to be leaking on the outside of the surface casing. Heavy minerals were promptly rushed to the scene and pumped in, and, apparently, successfully stopped the leak. The well was then closed in for the second time, and on Thursday of last week it cratered and swallowed the derrick and all surface equipment. Since that time, it has been blowing wild, with no means of having it stopped, until Sunday, it became ignited, supposedly from friction, and is now throwing flames high into the air. Several people living in the vicinity have abandoned their homes in fear of being burned by the fire, as well as the impossibility of living near the thunderous noise.

Wells on Recently Opened Osage Lands

Tulsa—Kewanee Oil & Gas Company was leading other buyers of recently auctioned Osage Indian lands east of Burbank with two good wells to its credit February 2. No. 2, in the southwest of the southeast of the northeast of section 28-27-6, made 505 barrels the first 16 hours, flowing natural from sand at 2893-2972 feet. No. 5, in the northeast of the southwest of the northeast of the same section, flowed 740 barrels in 11 hours from 2874-2912 feet. Mid-Continent Pipe Line Company was connecting to both wells. The Kewanee Company paid $405,000 bonus for the 160-acre tract on which these wells are located at the December 12, 1927, Osage land sale at Pawhuska.

Lewis Gas Products Company's No. 3, in the northwest of the southwest of the southwest of section 2-26-6, Burbank, was flowing 10 barrels an hour from sand at 2845-55 feet, and was drilling deeper.



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DEEP WELL CHABELCO

United States Daily Average Production

Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision:

1926	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Ave.	United States Total
January	445,950	99,600	256,500	90,100	43,800	178,000	100,450	101,700	618,750	1,934,850	59,979,900
February	450,300	102,050	246,600	91,550	45,300	169,400	98,950	101,050	604,950	1,910,150	53,483,900
March	457,900	103,000	260,500	91,950	48,800	165,700	97,800	102,100	604,400	1,932,150	59,897,250
April	464,850	102,600	265,600	90,900	51,550	170,750	101,750	107,300	600,650	1,955,950	58,678,000
May	463,350	106,150	280,050	93,700	59,100	175,700	106,100	111,650	602,400	1,998,200	61,944,950
June	459,100	107,900	305,100	91,350	60,350	166,950	106,050	113,300	607,550	2,017,650	60,529,350
July	456,700	110,450	336,300	116,550	57,100	161,650	104,650	107,750	614,400	2,065,550	64,032,300
August	465,300	111,750	383,800	162,800	56,800	157,350	108,600	110,600	608,900	2,165,900	67,143,450
September	466,050	113,400	403,750	175,200	56,850	153,250	110,200	104,700	598,150	2,181,550	65,446,500
October	503,350	114,650	444,700	169,900	58,200	149,500	109,450	98,500	614,200	2,262,450	70,136,500
November	550,700	115,800	477,000	176,900	56,450	143,700	111,150	92,900	643,650	2,368,250	71,047,550
December	564,250	118,800	480,800	181,900	54,800	138,600	110,050	85,650	660,400	2,395,250	74,252,700
1927											
January	598,500	117,200	466,400	173,900	52,900	131,550	107,850	84,450	653,450	2,386,200	73,972,150
February	693,350	116,250	479,800	154,600	52,800	128,200	107,150	85,300	642,700	2,460,150	68,884,300
March	710,350	116,100	475,000	154,750	51,450	124,500	104,400	87,600	640,850	2,465,000	76,414,900
April	723,700	115,400	477,300	155,100	50,500	113,350	108,000	89,350	644,550	2,477,250	74,317,750
May	742,200	114,600	488,700	151,300	47,450	112,700	114,000	89,300	633,550	2,493,800	77,307,700
June	768,600	112,200	480,800	151,650	49,150	112,450	111,850	86,050	638,550	2,511,300	75,338,900
July	846,750	107,750	475,800	142,950	56,200	109,900	111,800	86,950	620,700	2,558,800	79,322,300
August	832,900	105,100	483,450	139,350	56,950	104,750	114,600	80,750	621,450	2,539,300	78,717,850
September	797,450	105,200	493,750	142,900	53,450	101,350	110,800	74,500	637,250	2,516,650	75,498,900
October	782,300	105,100	497,900	138,400	51,300	100,450	113,600	73,250	629,000	2,491,300	77,230,000
November	766,900	106,650	501,750	138,100	49,400	97,850	114,900	75,050	623,850	2,474,450	74,233,500
December	720,700	106,150	531,650	138,500	47,200	94,950	111,250	77,150	624,600	2,452,150	76,017,050
1928											
January 7	674,900	107,300	517,450	132,750	44,600	90,150	110,000	77,700	624,200	2,379,050	16,653,350
January 14	683,050	105,500	522,250	123,800	45,400	89,950	110,000	77,550	615,600	2,373,100	16,611,700
January 21	676,950	108,600	527,750	126,500	45,350	90,050	110,250	78,850	616,600	2,380,900	16,666,300
January 28	670,250	110,800	522,000	121,350	45,700	90,100	109,000	72,750	613,300	2,355,250	16,486,750
February 4	667,700	110,800	532,000	119,100	45,400	90,150	107,500	79,550	614,100	2,366,300	16,564,100
Increase	.....	.....	10,000	.....	.....	50	.....	6,800	800	11,050	77,350
Decrease	2,550	.....	.....	2,250	300	.....	1,500	.....	.....	.....	.....

TEXAS

(Outside Gulf Coast)

PANHANDLE DISTRICT

	Feb. 4	Jan. 28
Hutchinson County	49,200	49,400
Gray County	23,100	18,300
Carson County	7,500	7,700
Wheeler County	1,100	1,450
Others	50	50
Totals	80,950	76,900

NORTH TEXAS

Burkburnett	12,000	12,100
Electra	11,000	11,200
Iowa Park-K-M-A	1,800	1,800
Wilbarger	10,250	10,500
Archer County	21,600	21,850
Clay County (Petrolia)	550	550
Baylor County	100	100
Montague and Cooke Cos.	14.050	14.350
Totals	71,350	72,450

WEST CENTRAL TEXAS

Stephens County	7,250	7,500
Eastland-Desdemona	8,050	8,250
Brown County	14,600	14,950
Coleman County	1,000	1,000
Callahan County	3,950	3,900
Shackelford County	5,600	5,700
Young County	9,500	9,550
Throckmorton County	1,050	1,150
Jack County	1,550	1,700
Palo Pinto County	500	500
Others	500	500
Totals	53,550	54,700

WEST TEXAS

Jones County	1,200	1,250
Mitchell-Scurry Cos.	3,400	3,300
Howard County	6,850	7,000
Reagan County	21,750	22,450
Crane-Upton Counties	103,000	94,500
Crockett County	3,150	2,900
Pecos County	45,600	51,000
Winkler County	90,900	85,100
Others	2,500	2,000
Totals	278,350	269,500

EAST CENTRAL TEXAS

Mexia	7,750	7,800
Currie	600	600
Richland	600	600
Wortham	1,950	2,000
Corsicana-Powell	12,400	12,500
Nigger Creek and Cedar Creek	1,800	1,800
Totals	25,100	25,300

SOUTHWEST TEXAS

Luling	12,850	13,000
Lytton Springs	1,600	1,600
Somerset	800	800
Laredo District	6,500	6,750
Dale	550	600
Others	400	400
Totals	22,700	23,150
Total Texas (Outside Gulf Coast	532,000	522,000

TEXAS GULF COAST

West Columbia	8,950	8,600
Damon Mound	850	850
Big Creek	2,100	1,900
Boling	2,000	2,100
Blue Ridge	4,500	3,850
Pierce Junction	8,550	10,000
Humble	1,650	1,700
Goose Creek	7,300	7,400
South Liberty	2,200	2,100
Hull	12,000	12,050
Saratoga	1,050	1,050
Batson	1,300	1,300
Sour Lake	3,600	3,700
Spindle Top	41,000	41,200
Orange	4,700	4,950
Barbers Hill	650	900
Others	2,200	2,000
Totals	104,600	105,650
Texas Total	636,600	627,650

OKLAHOMA

North Braman	3,200	3,000
South Braman	1,900	1,700
Blackwell	3,800	3,800
Hubbard	3,050	2,950
Thomas	1,500	1,800
Tonkawa	15,400	15,050
Garber	9,950	9,950
Burbank	38,400	37,750
Osage (outside Burbank)	29,650	29,650
Watchorn	1,150	1,150
Cushing	21,000	21,050
Yale-Jennings	9,000	9,000
Davenport	2,400	2,400
Bristow-Slick	24,550	24,550
North Okmulgee	15,850	15,900
Lyons Deaner	8,000	6,050
Stroud	900	1,050
Cromwell	10,400	10,400
Papoose	5,200	5,100
Wewoka	8,550	8,550
Seminole	58,200	57,050
Bowlegs	96,000	99,600
Searight	19,000	19,350
Little River	36,100	37,150
Earlsboro	115,350	119,350
Duncan District	6,650	6,700
Graham	5,850	5,900
Fox	1,800	1,800
Healdton	14,400	14,400
Hewitt	8,900	8,900
Scholem Alechem	13,900	12,400
Others	77,600	76,800
Totals	667,700	670,250

CALIFORNIA

Santa Fe Springs	38,000	38,500
Long Beach	115,00	114,000
Huntington Beach	60,500	60,500
Torrance	20,000	20,000
Dominguez	13,000	13,000
Rosecrans	8,000	8,000
Inglewood	30,800	31,000
Midway-Sunset	80,500	80,500
Ventura Avenue	53,000	52,500
Seal Beach	41,500	41,500
Others	153,800	153,800
Totals	614,100	613,300

KANSAS

Greenwood County	30,250	30,100
Florence-Covert	1,450	1,450
Peabody-Ebling	3,800	3,800
Eldorado-Towanda	14,250	14,250
Augusta-Fox Bush	4,200	4,200
Rainbow Bend	1,900	1,900
Russell	2,350	2,250
Churchill	12,600	12,050
Oxford	15,200	15,800
Others	24,800	25,000
Totals	110,800	110,800

NORTH LOUISIANA

	Feb. 4	Jan. 28
Homer	4,400	4,400
Haynesville	6,300	6,300
Caddo Light	11,550	11,750
Caddo Heavy	4,000	3,950
DeSoto-Red River	4,250	4,200
Elm Grove	600	600
Bellevue	1,000	1,000
Cotton Valley	4,450	4,400
Urania	8,200	8,300
Pleasant Hill	650	800
Totals North Louisiana	45,400	45,700

LOUISIANA GULF COAST

Vinton	4,350	1,100
Lockport	5,150	4,650
Evangeline	1,050	4,850
Edgerly	1,700	1,700
Others	2,250	3,400
Total Louisiana Gulf Coast	14,500	15,700
Louisiana Total	59,900	61,400

ARKANSAS

El Dorado	5,150	5,150
Smackover Light	8,650	8,800
Smackover Heavy	69,150	69,100
Stephens	1,100	1,100
Nevada	2,400	2,700
Lisbon	2,400	2,450
Champagnolle	1,200	700
Others	100	100
Totals	90,150	90,100

MOUNTAIN STATES

WYOMING

Salt Creek	43,950	37,800
Grass Creek	2,500	2,450
Elk Basin	1,150	1,000
Big Muddy	2,750	2,750
Lost Soldier	2,900	2,750
Rock River	2,650	2,550
Lance Creek	650	600
Others	3,350	3,250
Totals	59,900	53,150

MONTANA

Cat Creek	1,800	1,750
Sunburst	8,500	8,500
Others	150	150
Totals	10,450	10,400

COLORADO

Moffats (Craig)	1,300	1,250
Fort Collins	3,050	3,100
Florence	900	850
Others	1,350	1,750
Totals	6,600	6,950

NEW MEXICO

Table Mesa	300	1,250
Artesia	1,250	150
Hogback	600	650
Rattlesnake	250	...
Others	200	200
Totals	2,600	2,250
Totals Mountain States	79,550	72,750

EASTERN STATES

(Including Ill., Ind., Ohio, W. Va., Pa., Ky., and N. Y.)	107,500	109,000

PRODUCTION SUMMARY

East of Rockies	1,672,650	1,669,200
United States	2,366,300	2,355,250

He bought the first FRANKLIN VALVELESS and still buys them

Read His Entire Letter

July 26, 1927.

Franklin Valveless Engine Co.,
Franklin, Penna.

Gentlemen:

One day last week my attention was called to the advertisement of a drilling engine, and the success it had had in certain fields, which caused me to wonder if the contractor had ever seen the Franklin Valveless Engine in operation.

The writer in his experience with engines in Pennsylvania, the deep sand of S. E. Ohio, the Texas Panhandle, western Kentucky, and western Wyoming has never seen an engine which fills the bill when called upon under the condition of the several fields named to compare with the Franklin Valveless Engine.

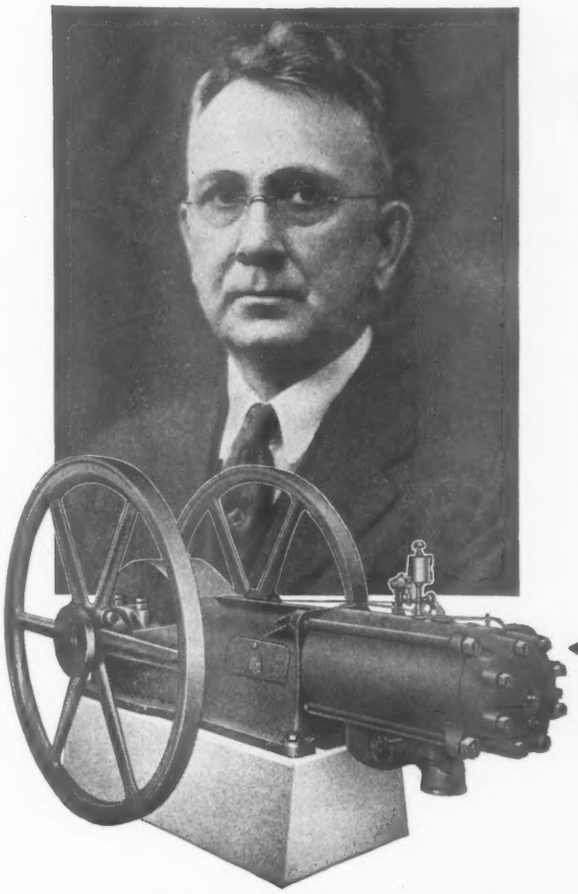
After seeing the test under pony break leverage of the first engine built by your Company in 1911, the writer purchased it and installed it in Tionesta, Penna. The engine has been running ever since and sometimes pumping 23 wells at one time, and to date has had comparatively no repairs.

I shipped a carload of these engines to S. E. Ohio for operations in Clinton sand at 3400 feet depth and they did the work much more satisfactorily than other engines in the field, and we were requested by your company to try out your drilling engine.

It gives me the greatest pleasure to write you, even at this late date, that the engine drilled our No. 11 on the Cobb & Bradley Lease to the depth of 3400 feet in 28 days, not deducting any time for running two strings of casing. The time saved in pulling out and bailing over other engines has been so remarkable that we immediately adopted its use and placed a large order with your company, and have just finished well No. 16 with the same satisfactory results. There are several engines yet to be delivered on this contract which will be used with a great many more, and I am pleased that other contractors in the different fields are getting the same results with your engine and I cannot recommend it too highly.

Respectfully yours,

ARTHUR H. SQUIER.

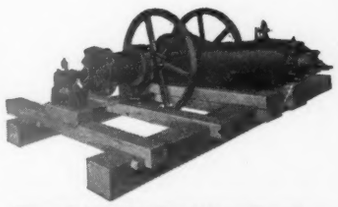


FRANKLIN VALVELESS
Spells "Economy"

Some operators swing over to Franklins to get away from the cost of boiler repairs. Some are attracted to Franklins by the low fuel requirements. Others like the bath lubrication system which reduces lubrication bills 75%—while still others speak of the small amount of water used.

Every reason given points to economy. It is true, day to day savings seem small, but in the long run they pile up so you can't ignore them. It is no idle statement to say: "A Franklin pays for itself by the running expenses it saves."

FRANKLIN VALVELESS ENGINE COMPANY
Franklin, Penna



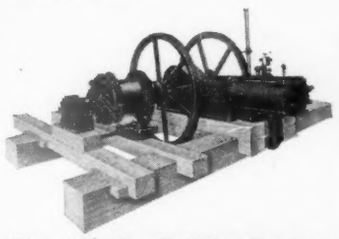
Franklin Oil Drilling Engine

A single cylinder oil engine which will give minimum operating cost, better performance under all conditions, and reduce drilling time. Gives a perfect drilling motion and eliminates "fighting" the engine at any point from top hole to oil. Easy to start in all weathers. Bath lubrication.

The Franklin is a single-cylinder, three-port, two cycle VALVELESS engine. This is Type AO for Mid-Continent or Western Cable Tool Drilling. Price $3700.00 For Eastern Service $2600.00 and $3350.00. Prices F.O.B. Factory. Complete with self-oiling, reversible drilling clutch, circulating pump and fuel tank.

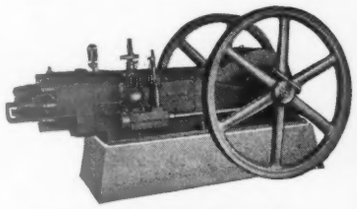
Franklin Gas Pumping Engine

Where gas is available use a Franklin Gas Pumping Engine. It is interchangeable with the Franklin Gas Drilling Engine, using the same block and without changing a single bolt.



Franklin Gas Drilling Engine

These engines can show you a power, speed and flexibility almost unbelievable. Sizes for Western Service, $1725.00 and $2150.00 For Eastern Service $1450.00 and $1725.00. Prices F.O.B. Factory.



Franklin Oil Pumping Engine

They come in 30, 40, 50 and 75 horse-power. Can be equipped with reverse or one way clutch. And don't forget the Franklin construction keeps out sand and grit and eliminates valve grinding.

Distributed by

OIL WELL SUPPLY CO.

Branch Stores in All Oil Fields

Advantages of A. P. I. Standard Pumping Equipment

By T. E. SWIGART
Shell Company of California, Los Angeles, California

(Continued from previous issue)

Working Barrels and Pumps

The committee has completed specificatiosn for both cold drawn and machined working barrels and, after much effort, has developed a single set of standards for working barrel pump parts regardless of whether they are to be used in machined or cold drawn working barrels.

Figures 14 and 15, together with Tables 3 and 4, give the general dimensions of standard A. P. I. cold drawn and machined working barrels which are to be made in 2, 2½, 3, and 4-inch sizes.

A. P. I. standards on both cold drawn and machined working barrels to a great extent, represent present practice. In fact, the machined working barrels shown in Figure 16 and the steel plungers shown in Figure 17 are of A. P. I. dimensions. Figure 16 shows the proper way to store working barrels at the field warehouse to prevent bending. Plugs are usually placed in the ends to keep new barrels free of dirt and to help prevent rusting. Figure 17 shows a good method for storing polished steel plungers. These are greased to prevent rusting.

The gradual change from present practice to A. P. I. working barrel standards will involve no difficulties on the part of the producer. The use of A. P. I. standard working barrels, however, is advantageous to producers because such details as top and bottom coupling designs and dimensions, standing valve shoe dimensions, and the like will be standard and interchangeable between makes. A. P. I. requirements as to tolerance, workmanship and finish are such that the use of standard A. P. I. working barrels will be advantageous to every operator. Their introduction to the industry will be almost automatic as practically all manufacturers of working barrels are already making or planning to adhere to A. P. I. specifications.

Investigation showed a wide difference in dimensions of pump parts throughout the United States. Practically no two manufacturers had the same standards for types and pitch diameters of threads on cages, plunger nuts, cup plunger bodies, machined plungers, standing valve bodies, and the like. Figure 18 is a chart of important dimensions of old styles of pump parts as well as the new A. P. I. standard dimensions. The chart shows that some 247 old dimensions have been replaced by 60 A. P. I. dimensions.

The committee apparently faced a hopeless task in developing a single set of standards from the large number of differing practices. However, it was finally found possible to adopt eastern standards on 2-inch pumps, because of the large number of such pumps manufactured and in use in the eastern fields, and western standards for 2½, 3 and 4-inch pumps because of the numbers of these pumps used in California fields where a relatively small number of 2-inch pumps are in use. As with working barrels, the transition from old standards to new A. P. I. standards will be gradual but automatic and the advantages to the operator are many fold. For example, in the Gulf Coast fields of Texas, cup pumps are used very widely, but in recent years, Gulf Coast operators have been using machined plunger pumps in many wells. With the adopting of A. P. I. standards, all pump fittings will be the same for both cup and

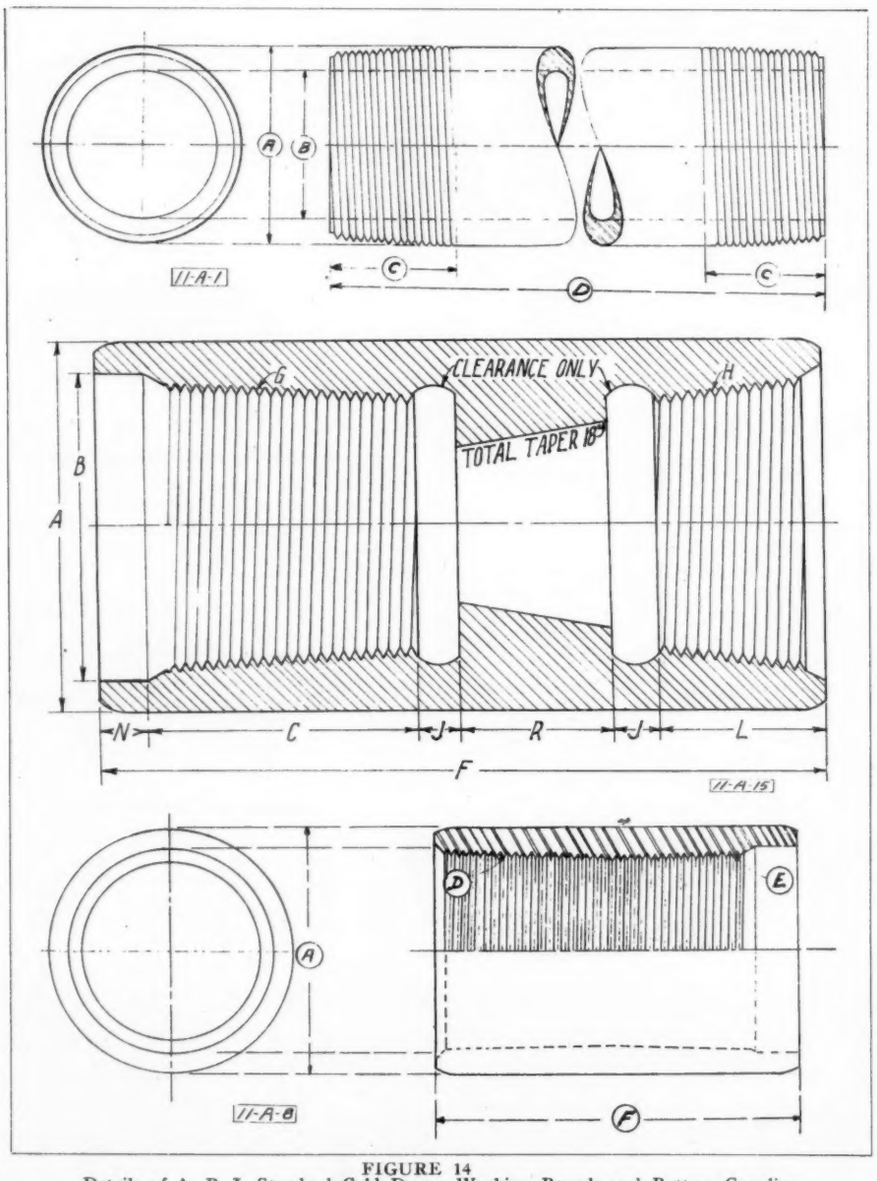


FIGURE 14
Details of A. P. I. Standard Cold Drawn Working Barrels and Bottom Coupling

machined plunger pumps, and workmen in the field will never encounter any delays and difficulties in changing the style of pump in a particular well. A single set of fittings carried in storehouses will do for both cup and machined plunger pumps. A similar condition is developing in California where, until recent months, machined plunger pumps were used almost exclusively. Now cup plungers are becoming popular and are being used in great numbers by many operators, and again the matter of interchangeability and simplicity of warehouse stocks is an important one to the operator.

As with other pieces of A. P. I. equipment, the standards finally adopted represent present practice in so far as they are compatible with good engineering design, and the committee has no hesitation in recommending A. P. I. standards on working barrels and pump parts, to the industry.

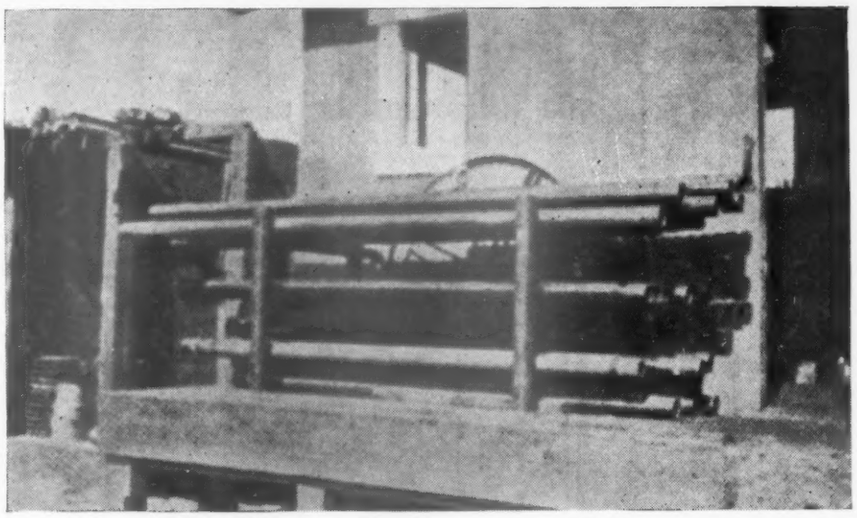


FIGURE 16
Photograph of Machined Working Barrels, Illustrating Proper Method of Storing at Field Storehouses

Internal Combustion Engines and Clutches

Because of the wide divergence of design in internal combustion engines, the committee found it difficult to standardize many mechanical parts. A. P. I. standards which were adopted relate to the size of bolt holes and foundation bolts for internal combustion engines of certain ratings. It was impossible to determine upon a standard layout of foundation bolts for engines of a certain rating because of the great differences in fundamental design by different manufacturers.

It was found possible, however, to design and specify dimensions of a clutch flange connection for internal combustion engines for oil field service and thus insure interchangeability between engines of any make and clutches of other makes. Figure 19 gives the details of the standard A. P. I. clutch and reverse gear connections, the actual dimensions being shown in Table 5.

The committee feels that it has accomplished a very constructive piece of work in developing a standard method of rating internal cumbustion engines for oil field service. In short, the A. P. I. horsepower rating of horizontal single-cylinder gas, gasoline, or oil engines for oil field service is a double rating which expresses the average maximum brake horsepowers as developed by the engine at

(a) The recommended operating speed for pumping service and

(b) The tested speed of maximum power.

Figure 20 shows the standard A. P. I. rating test form and for purposes of illustration a typical engine rating curve have been drawn on the cross-section groph. This curve represents the brake horsepower developed by a particular engine at speeds varying from 125 to 305 r. p. m. The intersection of ordinate "A" with the brake horsepower curve gives the rating "A" at the recommended operating speed for pumping service (46 hp.), while the intersection of ordinate "B" with the brake horsepower curve gives the rating "B," which is at the speed of maximum power (64 hp.). In addition, manufacturers are asked to show on the graph the tested maximum speed

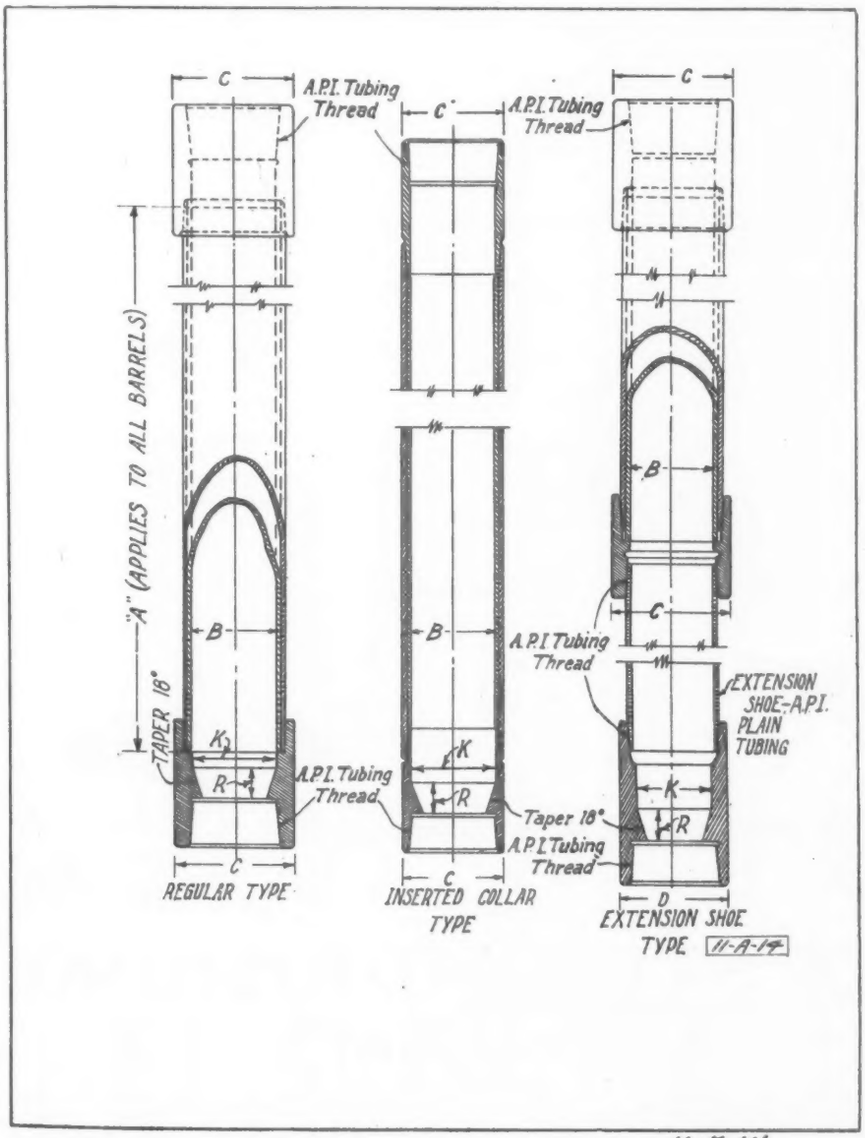
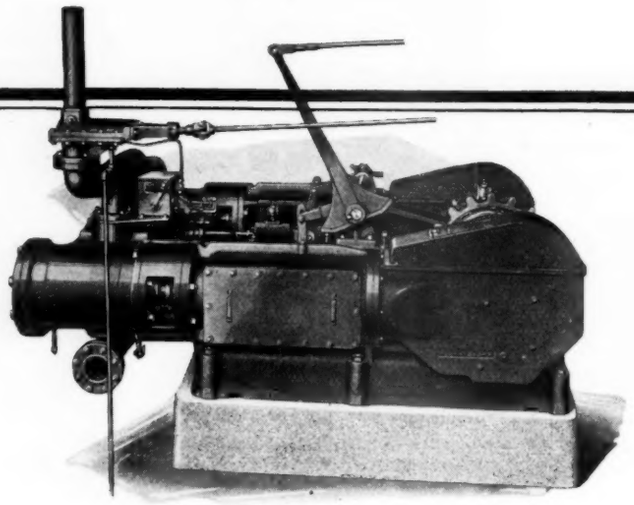


FIGURE 15
Details of A. P. I. Standard Machined or Replaceable Liner Working Barrels

a MILE below

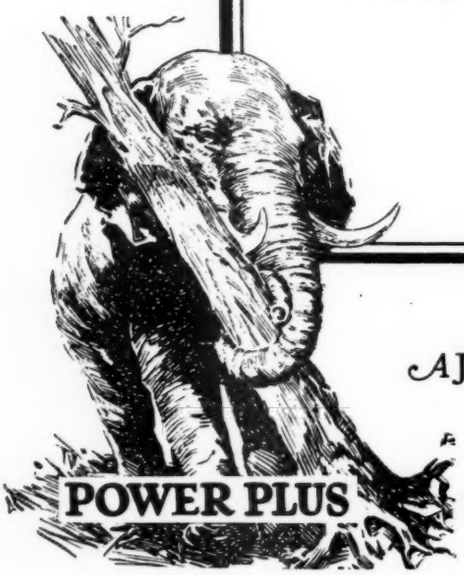


WELLS drilled to 6000 feet or more make new demands on the power unit.

Low-powered engines are proving inadequate for operation at this depth.

Ajax Engines are capable of developing up to 600 horse power. No well is too deep, no task is too great for Ajax to bring it rapidly to completion.

AJAX ENGINES



Made by
AJAX IRON WORKS
Corry, Pa.

Marland Oil Co.'s well in Section 20-23-3 West, Garfield County, Okla.

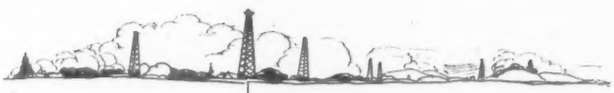
This well has been drilled to 5,240 feet by a 13 x 14 Ajax Engine and is producing 200 barrels of oil and ten million feet of gas per day.

DISTRIBUTED BY
THE NATIONAL SUPPLY COMPANIES

In every oil field

IDEAL-AJAX STEAM DRILLING

the Surface . . . .

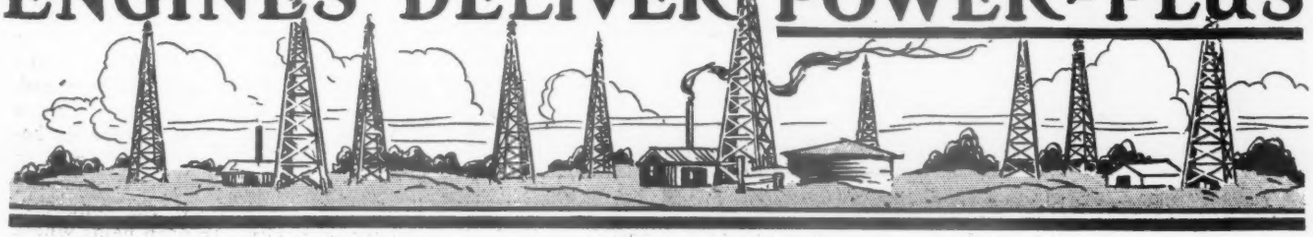


WELLS sunk to the depth of a mile are no longer unusual. Greater power is needed for drilling to this depth. Old engine ratings are no longer adequate.

More and more, high-powered Steam Drilling Engines are coming into favor. Ajax Engines for cable work and Ideal-Twin for rotary drilling have given the industry new standards of drilling engine performance.

They will develop ample power for drilling to any depth.

ENGINES DELIVER POWER-PLUS



Say you saw it in The OIL WEEKLY

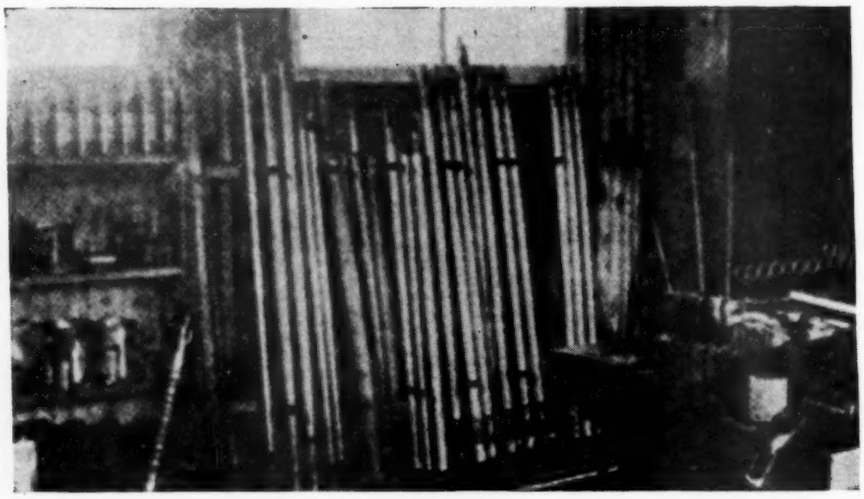


FIGURE 17
Polished Steel Plungers of A. P. I. Dimension Stored in a Field Storehouse

illustrated by ordinate "C" and the tested minimum speed at which the governor will function, illustrated by ordinate "D," Figure 20.

The need for developing some standard method of rating internal combustion engines arose through the practice of different manufacturers in assigning the same rating to engines of widely varying power ranges. Also a gas engine for pumping only develops the power advertised as its rating at one particular speed. Examining the speed-horsepower curve shown in Figure 20, which incidentally is for a so-called 40 hp. engine, it is seen that under test the engine developed 40 hp. only when running at 151.5 r. p. m.

A purchaser of engines who did not have access to speed-horsepower curves for engines submitted to him had no way of knowing, therefore, at what speed an engine would develop the advertised rating or what range of power the engine had at different speeds. For that matter many purchasers are not engineers and therefore do not know what ranges of power and speed are best suited to their particular needs.

Tests show that some manufacturers have built comparatively small engines which sell at relatively low prices, but which are designated as 40 hp. engines. Other manufacturers have built heavy powerful engines and have classed them as 40 hp. engines. One advertises low prices and the other, great power. Actual brake horsepower tests on a number of so-called 40 hp. engines in common use in the fields showed that the ranges of power of engines varied by as much as 33 1/3 per cent. All of these engines were advertised

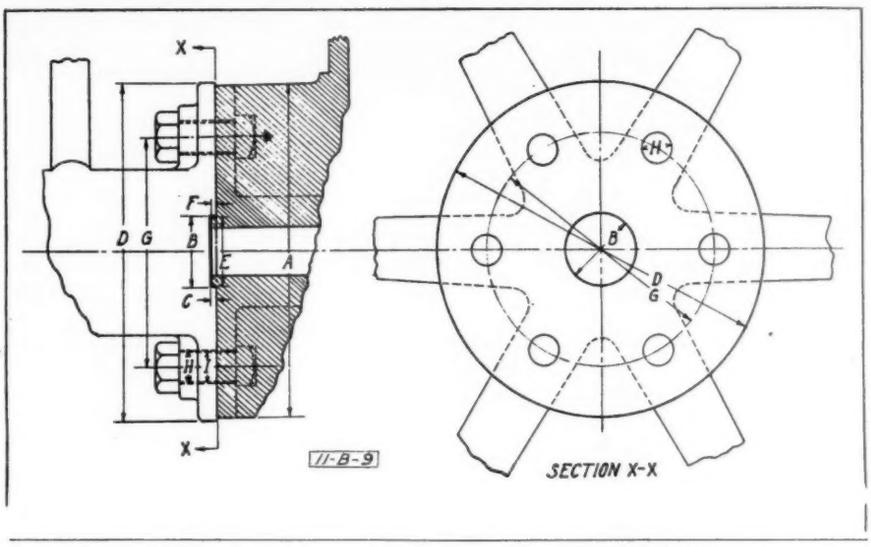


FIGURE 19
Sketch of A. P. I. Standard Clutch and Reverse Gear Flange Connections

and sold as 40 hp. engines, although, as might be expected, it was observed that the more powerful engines sold at higher prices. Such a confusing situation causes the ordinary oil operator to wonder what kind of an engine he actually needs, and what particular engine will best fit his needs.

The object of the A. P. I. in developing a standard method and code of internal combustion engines is to provide the purchaser with a method of appraising the comparative values of several engines in terms of dollars per horsepower, and also to enable him to determine the limits of speed and power of several engines which might be offered for sale.

A producer who is using engines on a beam pumping well is interested chiefly in two points; first, the power which his engine will develop at the normal pumping speed, and second, the maximum power that the engine will develop and at what speed, because the latter condition is met in pulling rods and tubing. At pumping speed the engine must run smoothly and economically. In deep fields where

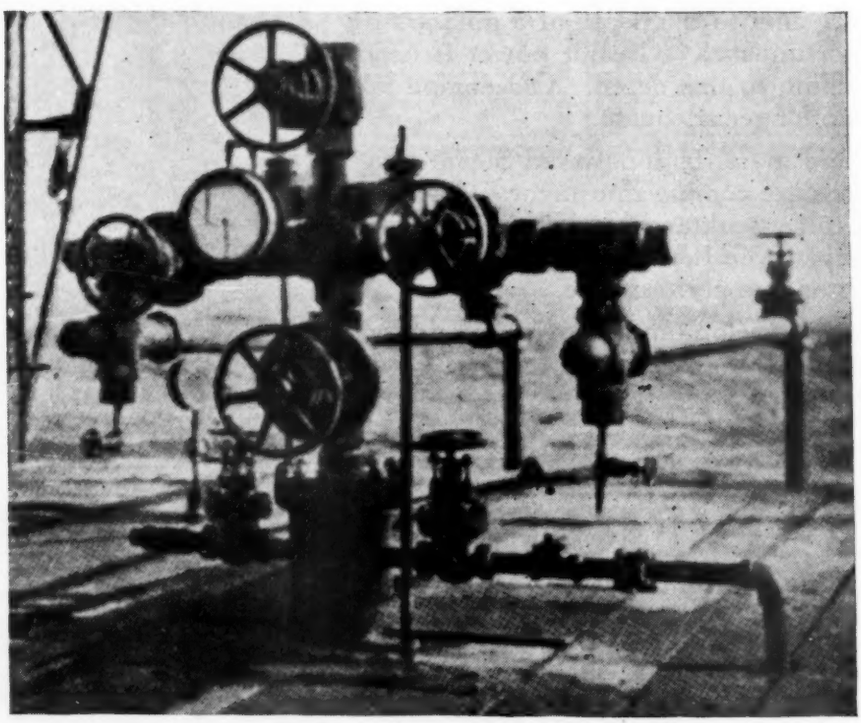


FIGURE 22
Standard Casinghead Fittings on a California Flowing Well Showing Recommended A. P. I. Practice in Use of ½-inch Pressure Gage and Bleeder Lines and Fittings

Announcing New and Outstanding Improvements

in the **D-B SIMPLEX INSERT PUMP**

"QUALITY FIRST" D-B TRADE MARK

Distinct & radical changes of progressive character which tend to strengthen and simplify the complete pump assembly

Pulls With The Rods

1. A New Hardened and Ground Valve Rod Guide, fitted to approximately one-thousandth of an inch against the pump head, forms a tight seal and eliminates the possibility of sand dropping down around the head and between the tubing and pump shell. Minimizes sanding up and makes pulling very much easier.
2. A New Type of Lock Sleeve Assembly on bottom of pump which positively maintains the pump in correct position, at the same time allowing for positive disengagement of the locking device when the pump is removed from the well. Consists of a double type tubing shoe with split lock, which requires only 450 pounds to lock in place but 2000 pounds to pull out. Locking is effected by the weight of the rods pushing the pump tube into the double pump shoe.

Valve Rod Guide Assembly

3. The New Type Lock is a positive shut-off seat at the bottom, ground to fit, being held rigidly in place by the spring tension of the lock sleeve. A gas anchor may be used if desired.
4. The Seal at top, together with the lock at the bottom, makes the pump absolutely rigid while operating. There is no whipping or twisting to wear on the pump parts.
5. Should it be necessary to renew the shoe seat, the lower half of the shoe can be unscrewed and removed while the upper half need never be touched, permitting easy inspection or replacement.
6. The entire working barrel and plunger is lowered into and withdrawn from the well on the sucker rods, making it unnecessary to pull the tubing when pump mechanism is removed for adjustment or replacement.
7. All parts made to gauge and interchangeable. A special jack screw can be furnished to force the pump out of jacket before running in.

The D & B Simplex Insert Pump is the finest pump of this type ever produced, now perfected to an exceptionally high degree. Complete specifications and drawings will be furnished on request.

Lock Sleeve Assembly Complete

D&B PUMP and SUPPLY CO.

LOS ANGELES, CALIF. DALLAS, TEXAS.

BRANCH STORES.

TORRANCE, TAFT, COALINGA, BAKERSFIELD, SIGNAL HILL, HUNTINGTON BEACH & SANTA FE SPRINGS, CALIFORNIA.

over 4000 feet of tubing is pulled, an engine must deliver considerable power and deliver it at a reasonably high rotational speed above the pumping speed, in order to permit pulling and rerunning tubing as fast as possible.

The committee with the cooperation of the gas engine manufacturers worked out the A. P. I. Rating Test Form and Code of Testing for single-cylinder, horizontal, internal combustion engines given in A. P. I. Standards No. 11-C. This system requires every manufacturer of gas engines to present to a prospective purchaser a test record form showing, among other things, a characteristic speed-horsepower that the engine will develop on the test block at the factory.

This curve may not show the exact horsepower, of course, that the engine will develop in the field, because there are a great many variable conditions such as the quality of gas, temperature, intake fuel pressure, altitude, and the like, that may vary the horsepower. However, with the data called for by the A. P. I. Test Record Form, allowance can be made for differences in conditions, and a fairly equitable comparison of results of field and factory tests may be obtained.

With the information furnished by the A. P. I. Rating Test Form and Code of Test the only problem left the operator who is purchasing engines is that of determining what performance is required for his particular property or field. It is impossible in a paper of this kind to suggest what kind of an engine will suit each operator's needs as the choice of engines is an engineering problem that must be studied in light of local conditions. The A. P. I., however, has made it possible for oil company engineers to become fully informed on the characteristics of engines offered for sale and this in turn makes it possible for engineers to arrive at a proper selection of engines.

Miscellaneous Items of Equipment

The committee has adopted standards on several miscellaneous items of equipment and is now working on standards for still other pieces of pumping equipment such as oil field motors.

At the 1927 Colorado Springs meeting, the committee made recommendations to oil operators regarding the standardization of pressure gauge taps and fittings at well heads. This matter is of much concern to every operator of flowing and gas lift wells at this time.

Pressure gauge manufacturers follow different practices with regard the size and kind of connections furnished on pressure gauges. It frequently happens that gauges are delivered for use at wells with ¼, ⅜ or ½-inch connections and the connections may be male, female or even unions. As pressure gauges aer usually needed at times of stress when flowing or gas lift wells are being worked upon, and as necessary bushings are seldom available at the wells for making connections, the committee formulated the following recommendations to oil producers to eliminate all confusion and delay:

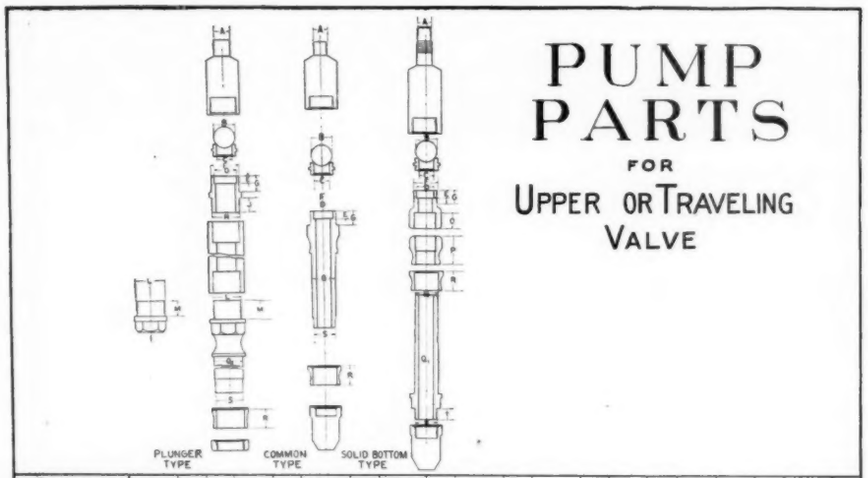
1. All taps and pressure gauge connections at well heads, including taps and connections for bleeders, are to be ½-inch standard pipe size.

2. All pressure gauges are to be fitted with bushings to give ½-inch male pipe connection before being delivered by storehouse to the field.

3. All gauges are to be fitted with valve or stopcock immediately under gauge before being delivered by storehouse to the field.

Figure 22 shows the casinghead of a flowing well in California with standard A. P. I. pressure gauge connections. "A" is a self-recording gauge on the tubing, "B" an ordinary pressure gauge to measure casing pressure, and "C" a bleeder line. All are ½-inch fittings and pressure lines.

Compliance with these recommendations will eliminate all confusion in re-



2" PUMP PARTS

	A Thread	B Dia	C Dia	D Dia	E Length	F P DIA & PITCH	G Length	H P DIA & PITCH	J Length	L P DIA & PITCH	M Length	N P DIA & PITCH	O Length	P Length	Q Dia	Q_1 Dia	Q_2 Dia	R Length	S P DIA & PITCH	T Length
ALTEN'S FOUNDRY & MACHINE CO.	7/8"-3 Rod	25/32"	5/8"	9/16"-18	5/16"															
AXELSON MACHINE CO.	7/16"-A.P.I.5Rod			1 3/16"	3/8"	.5412"-14Thd	3/16"	.5460"-14Thd	15/16"	.5412"-14Thd .5460"-14Thd	15/16"				1 3/16"		1 3/16"	1"	.5412"-14Thd	
BRADFORD MOTOR WORKS	7/8"-R.P.M.-3 Rod 7/8"-3 Rod	1 1/8"	1 3/16"	1 3/16"	3/8"	.5423"-14 Thd U.S.F.	3/16"					.5460"-14 Thd U.S.F.	13/16"					1"	.5387"-14 Thd U.S.F.	
D & B. PUMP & SUPPLY CO.	7/16"-A.P.I.5Rod			1 1/16"	3/8"	.5412"-14Thd	3/16"	.5460"-14Thd	13/16"	.5460"-14Thd	13/16"				1 3/16"		1 3/16"	1"	.5412"-14Thd	
THE CHARLES N. HOUGH MFG. CO.	1/2 Pipe	1 1/16"	3/4"	1 3/16"	3/8"	.5417"-14Thd	3/16"	.5450"-14Thd	7/8"	.5450"-14Thd	7/8"	.5462"-14Thd	1 1/16"	2 5/8"	1 3/16"	1 3/16"	1 3/16"	1"	.5462"-14Thd	
THE NATIONAL SUPPLY CO.	12 Pitch or 7/8"-A.P.I.5Rod	1 1/8"	3/4"	1 1/16"	3/8"	.5420"-14 Thd U.S.F.	15/16"	.5445"-14 Thd U.S.F.	3/16"	.5443"-14 Thd U.S.F.	45/32"	.5455"-14 Thd U.S.F.	1 1/16"	2 11/16"	1 3/16"	1 3/16"		15/16"	.5455"-14 Thd U.S.F.	3/16"
OIL WELL SUPPLY CO.	12 Pitch or 7/8"-5 Rod	1 1/8"	45/64"	1 3/16"	7/16"	.5462"-14Thd	13/16"								1.185"			7/8"		
HOUSTON PUMP & SUPPLY CO.	1/2 Pipe	1 1/16"	13/16"	1.195"	3/8"	.5391"-14Thd	3/16"								1 3/16"			1"	.5417"-14Thd	

2½" PUMP PARTS

	A Thread	B Dia	C Dia	D Dia	E Length	F P DIA & PITCH	G Length	H P DIA & PITCH	J Length	L P DIA & PITCH	M Length	N P DIA & PITCH	O Length	P Length	Q Dia	Q_1 Dia	Q_2 Dia	R Length	S P DIA & PITCH	T Length
ALTEN'S FOUNDRY & MACHINE CO.																				
AXELSON MACHINE CO.	7/16"-A.P.I.5Rod			1 7/16"	1/2"	.7754"-14Thd	3/8"	.7930"-14Thd	1"	.7754"-14Thd .7930"-14Thd	29/32"				1 7/16"		1 9/16"		.7512"-14Thd	
BRADFORD MOTOR WORKS	7/8"-R.P.M.-3 Rod 7/8"-3 Rod	1 1/2"	1"	1 7/16"	1/2"	.7966"-14 Thd U.S.F.	3/16"					.7.9167"-14 Thd U.S.F.			1 7/16"	1 9/16"	1 9/16"		.7.9167"-14 Thd U.S.F.	
D & B. PUMP & SUPPLY CO.	7/16"-A.P.I.5Rod			1 7/16"	1/2"	.7754"-14Thd	13/16"	.7930"-14Thd	7/8"	.7930"-14Thd	7/8"				1 7/16"		1 7/16"		.7512"-14Thd	
THE CHARLES N. HOUGH MFG. CO.	1/2" Pipe	1 1/2"	1"	1.447"	1/2"	.7762"-14Thd	13/16"	.7754"-14Thd	1"	.7754"-14Thd	1"	.7508"-14Thd			1 7/16"		1 9/16"		.7506"-14Thd	
THE NATIONAL SUPPLY CO.	1/2" Pipe	1.70"	1 7/16"	1.443"	3/8"	.7766"-14 Thd U.S.F.	13/16"					.7.920"-14 Thd U.S.F.	1 7/16"	2 15/16"	1.7366"	1.7166"		.7.932"-14 Thd U.S.F.	.7.520"-14 Thd U.S.F.	3/16"
OIL WELL SUPPLY CO.	1/2 Pitch or 7/8"-5 Rod	1 1/2"	1"	1 7/16"	7/16"	.7816"-14Thd	13/16"								1 9/16"			1 1/16"		
HOUSTON PUMP & SUPPLY CO.	1/2 Pipe	1 7/16"	1"	1.450"	3/8"	.7766"-14Thd	7/8"								1 9/16"			1 1/16"	.7.516"-14Thd	

3" PUMP PARTS

	A Thread	B Dia	C Dia	D Dia	E Length	F P DIA & PITCH	G Length	H P DIA & PITCH	J Length	L P DIA & PITCH	M Length	N P DIA & PITCH	O Length	P Length	Q Dia	Q_1 Dia	Q_2 Dia	R Length	S P DIA & PITCH	T Length
ALTEN'S FOUNDRY & MACHINE CO.	1 1/2"-Pipe	1 7/16"	1 7/8"	1.460"	1/2"	.2197-12Thd	1 1/8"								2.132"			1 1/4"	.2197-12Thd	1 1/8"
AXELSON MACHINE CO.	1 1/16"-A.P.I.5Rod			1 7/16"	7/16"	.2.3359"-11 Thd U.S.F.	7/8"	.2.3146"-11 Thd	1 1/8"	.2.3359"-11 Thd .2.3361-11 Thd	1 3/16"				2"		2"		.7.9.53"-11 Thd	
BRADFORD MOTOR WORKS	1 1/2" Pipe or 1 1/2 Rod	1 7/16"	1 7/16"	1.760"	5/8"	.2.3088"-11 Thd U.S.F.	1 1/16"					.2.3059"-11 Thd U.S.F.			1 7/8"	2 7/16"	2 7/16"	1 1/4"	.2.3059"-11 Thd U.S.F.	
D & B. PUMP & SUPPLY CO.	1 1/16"-A.P.I.5Rod			1 7/16"	3/8"	.2.3359"-11 Thd	1 3/16"	.2.3.2"-11 Thd	1"	.2.3.2"-11 Thd	1"				2"		2"	1 1/4"	.7.9501-11 Thd	
THE CHARLES N. HOUGH MFG. CO.	1 1/2" Pipe	1 1/16"	1 1/16"	1.762"	5/8"	.2.344"-11 Thd	1 1/8"	.2.3.7"-11 Thd	1"	.2.3.7"-11 Thd	1"	.7.932"-11 Thd			2.1.2"		2.045"	1 1/4"	.7.932"-11 Thd	
THE NATIONAL SUPPLY CO.	1 1/2" Pipe	1 1/16"	1 1/8"	1.765"	5/8"	.2.347"-11 Thd U.S.F.	1 1/16"					.7.965"-11 Thd U.S.F.	1 1/8"	2 15/16"	2.166"	2.016"		1 1/16"	.7.965"-11 Thd U.S.F.	7/8"
OIL WELL SUPPLY CO.	1 1/2" Pitch or 7/8"-5 Rod	1 1/16"	1 1/16"	1.766"	7/16"	.2.19"-11 Thd	1 1/16"								2.043"			1 1/16"		
HOUSTON PUMP & SUPPLY CO.	1 1/2" Pipe	1 1/16"	1 1/16"	1.765"	3/8"	.2.339"-12 Thd	1 1/16"								2.132"			1 1/16"	.7.939"-12 Thd	

4" PUMP PARTS

	A Thread	B Dia	C Dia	D Dia	E Length	F P DIA & PITCH	G Length	H P DIA & PITCH	J Length	L P DIA & PITCH	M Length	N P DIA & PITCH	O Length	P Length	Q Dia	Q_1 Dia	Q_2 Dia	R Length	S P DIA & PITCH	T Length
ALTEN'S FOUNDRY & MACHINE CO.	1 1/16"-Thd	2 1/16"	2 1/16"	2 7/16"	1/2"							2.76"-10Thd		2.96"		2.76"		1 3/16"		
AXELSON MACHINE CO.	1 1/16"-Pipe			2 1/16"	7/16"	.3.112"-11 Thd	1 3/16"	.3.383"-11 Thd	1 1/16"	.3.112"-11 Thd .3.303"-11 Thd	1 3/16"				2 1/16"		2 1/16"		2.943"-11 Thd	
BRADFORD MOTOR WORKS	1 1/16" Pipe	2 1/16"	1 7/8"	2.565"	7/8"	.3.071"-11 Thd U.S.F.	1 1/16"					2.7091"-11 Thd U.S.F.			2 7/16"			1 7/16"	2.7091"-11 Thd U.S.F.	
D & B. PUMP & SUPPLY CO.	1 1/16" Pipe			2 1/16"	7/16"	.3.112"-11 Thd	1 1/16"	.3.383"-11 Thd	1 1/16"	.3.223"-11 Thd	1 1/16"				2.1.2"		2.1.2"	1 1/16"	2.943"-11 Thd	
THE CHARLES N. HOUGH MFG. CO.	1 1/16" Pipe	2 1/16"	1 7/8"	2.561"	7/16"	.3.059"-11 Thd	1 1/16"								2.863"			1 7/16"	2.7091"-11 Thd	
THE NATIONAL SUPPLY CO.																				
OIL WELL SUPPLY CO.	1 1/16" Pipe	2 7/16"	2 7/16"	2.336"	7/16"	.3.1.6"-11 Thd	1 1/16"								2.2.2"			1 1/16"		
HOUSTON PUMP & SUPPLY CO.	1 1/16" Pipe	2 1/16"	2 1/16"	2.1.6"	3/8"	.3.063"-10 Thd	1 1/16"								2.3.6			1 1/16"	.3.033"-10 Thd	

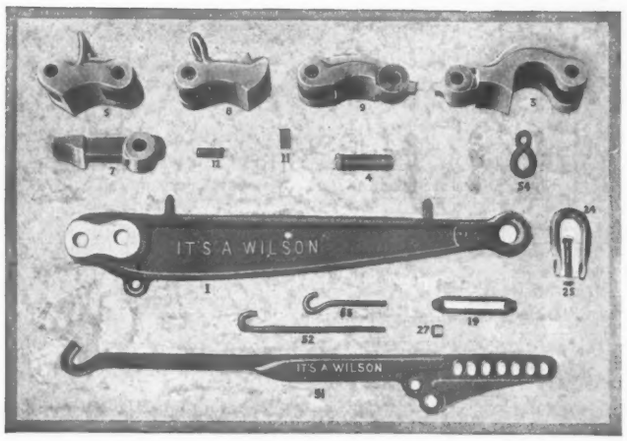
A. P. I. STANDARDIZED DIMENSIONS

	A Thread	B Dia	C Dia	D Dia	E Length	F P DIA & PITCH	G Length	H P DIA & PITCH	J Length	L P DIA & PITCH	M Length	N P DIA & PITCH	O Length	P Length	Q Dia	Q_1 Dia	Q_2 Dia	R Length	S P DIA & PITCH	T Length
2" PUMP	1 1/16" Axis-5 Rod	1 7/8"	Optional	2.187"	1/2"	.5412"	13/16"	.5460"	7/8"	.5460"	7/8"	.5462"	1 1/16"	2 11/16"	1 3/16"	1 3/16"	1 3/16"	1"	.5462"	3/16"
2½" PUMP	1 7/16"	1 7/8"	Optional	2.437"	5/8"	.7754"	7/8"	.7930"	15/16"	.7930"	15/16"	.7.9167"	1 1/16"	2 15/16"	1 3/16"	1 3/16"	1 3/16"	1 3/16"	.7.9167"	3/16"
3" PUMP	1 7/16"	1 7/16"	Optional	2.750"	5/8"	.2.3359"	1 1/16"	.2.3.6"	1"	.2.3.6"	1"	.2.3.59"	1 1/16"	2 15/16"	2.166"	2.016"	2.045"	1 1/16"	.7.9.53"	7/8"
4" PUMP	2 1/16"	2 1/16"	Optional	3.625"	7/16"	.3.112"	1 1/16"	.3.383"	1 1/16"	.3.223"	1 1/16"	.3.2.59"	1 1/16"	3"	2.866"	2.716"	2.866"	1 1/16"	.3.2.59"	

FIGURE 18

It's a Wilson

As simple in design as it is sturdy!



Wilson Rotary Tong

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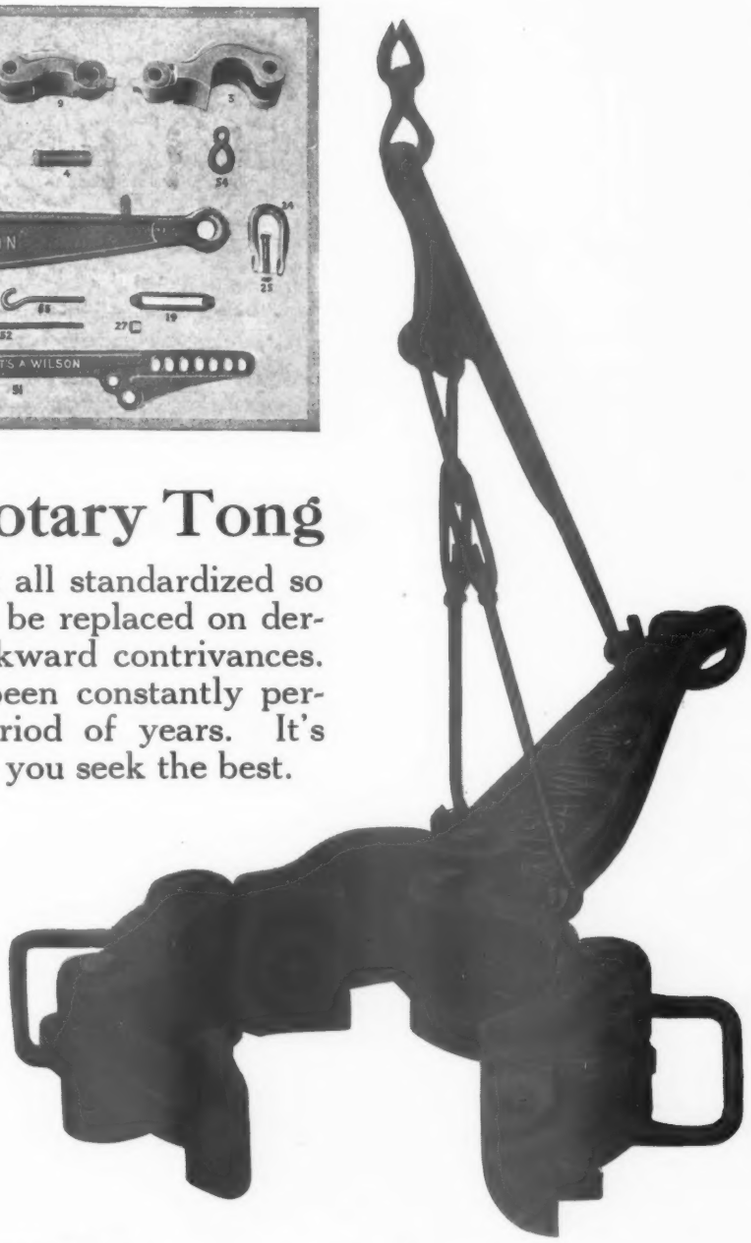

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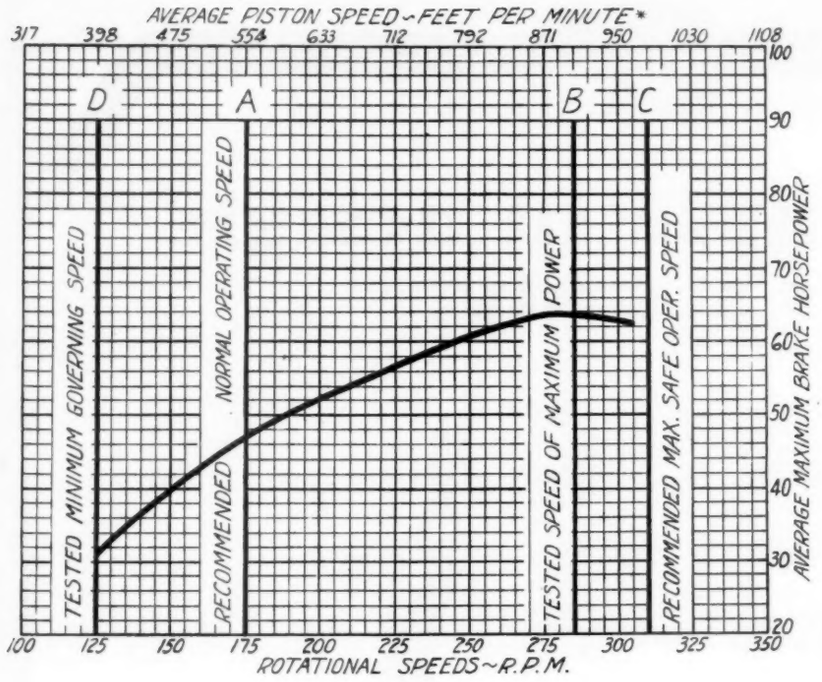

AVERAGE PISTON SPEED~FEET PER MINUTE*
317 398 475 554 633 712 792 871 950 1030 1108
D
A
B
C
TESTED MINIMUM GOVERNING SPEED
RECOMMENDED NORMAL OPERATING SPEED
TESTED SPEED OF MAXIMUM POWER
RECOMMENDED MAX. SAFE OPER. SPEED
AVERAGE MAXIMUM BRAKE HORSEPOWER
100 90 80 70 60 50 40 30 20
100 125 150 175 200 225 250 275 300 325 350
ROTATIONAL SPEEDS~R.P.M.

A. P. I. Rating Test Form for Single-Cylinder, Horizontal Type, Internal Combustion Engines for Oil Field Service

RATING 46 | 64 B. hp.

(A) Normal	(B) Maximum
Engine Number .....;	Date of Test .....192..;
Cylinder Bore, in. .....;	2 or 4 Cycle .....;
Type Fuel Used .....;	Stroke, in. .....;
Type of Governor .....;	Type of Ignitor .....;
Manufacturer's Name .....,	Type of Lubricator .....;

Test Data

Type of Brake Used .....; Brake Arm, ft. ....., in. .....
Fuel Used in Test .....; °A. P. I. or Sp. Gr. .....;
BTU/lb. or BTU/cu. ft. .....

Average Temperatures:

Air ..... °F.; Water ..... °F.;
Fuel ..... °F.; Crank Case Oil ..... °F.;

Fuel Pressure at Intake Valve, lb./sq. in. .....;
Altitude of Shop where test was made, ft. above Sea Level .....;
Observer .....

*Note—The scale for piston speed is to be calculated and entered at the top of the graph;

Average Piston Speed in Feet per Minute. = —(Rotational Speed) (2) { Stroke in in. / 12 }

Three Minute Average Maximum Brake Horsepower Tests

Rotational Speed.	Brake	Computed B hp.	Angle of Spark
R. P. M. (35%)	.....	.....	.....
R. P. M. (50%)	.....	.....	.....
R. P. M. (75%)	.....	.....	.....
R. P. M. (100%)**	.....	.....	.....
R. P. M. (110%)	.....	.....	.....

One-Hour Fuel Consumption Tests

Rotational Speed	Average B. hp.	Fuel Rate per 24 Hrs.	BTU Per B. hp.
A—Rec. Normal Speed	(100%)	.....lb. or cu. ft.....	
A—Rec. Normal Speed	(50%)	.....lb. or cu. ft.....	
B—Speed of Max Power**	(100%)	.....lb. or cu. ft.....	
B—Speed of Max. Power	(50%)	.....lb. or cu. ft.....	

**100% represents the rotational speed at which maximum power is delivered (Ordinate "B" of Fig. 4).

Sample A. P. I. rating test forms—8½"x11"—can be secured from the A. P. I. division of Standardization, 1508 Kirby Bldg., Dallas, Texas.

gard to the fitting of pressure gauges and will not interfere with gauge manufacturers' designs.

Another item of pumping equipment that will be standardized are pullrod ends so that all clamps for plain or upset pull rods of a given size will fit any make of rod of the same designation.

The committee also is hoping to apply the same general principle developed in rating single-cylinder horizontal type internal combustion engines for oil field service to the rating of multi-cylinder engines for oil field service.

Summary

An attempt has been made in this paper to point out the advantages of A. P. I. standard pumping equipment. To date A. P. I. standards have been completed for tubing, sucker rods, working barrels, and engine ratings.

The committee on pumping equipment and engines recommends A. P. I. standard equipment to the oil industry; the standards are the product of the industry's experience and have many features to commend them. Those who use them are receiving satisfaction. Those who do not are missing an opportunity to better their field operations.

Concrete Booklet

The various uses which are being made of Portland cement and concrete in the oil fields and refineries of the United States are comprehensively discussed and illustrated with pictures and diagrams in a booklet which has just been published by the Portland Cement Association. The booklet is very interesting and contains some valuable information, including specifications for concrete in derrick foundations and in refineries; and worthwhile suggestions as to cementing oil wells, building reservoirs and tanks, and making special uses of concrete in both the producing and the refining branches of the petroleum industry. Distribution of the publication is free to all oil producers, refiners and natural gasoline manufacturers, who will write to the association at 33 West Grand Avenue, Chicago.

The book is divided into four parts, the first of which discusses the fundamentals of making concrete, touching upon the design of concrete mixtures and materials for concrete. The second division contains a thorough illustrated discussion of the use of concrete and Portland cement in the fields, some of the subjects discussed being the building of derrick and machinery foundations, cementing wells, and constructing reservoirs and tanks. The third part of the book is devoted to the use of concrete in refineries and for special purposes, such as constructing recreation buildings, roofing, fence posts. The fourth division suggests specifications for concrete in derrick foundations and in refineries.

TABLE 3

IMPORTANT GENERAL DIMENSIONS OF A. P. I. STANDARD COLD DRAWN WORKING BARRELS

(All Dimensions in Inches at 68° F.)

Size of Working Barrel	Diameters: Nominal Outside "A"	Diameters: Inside "B"	Diameters: Tolerance	Threads: Number Threads Per Inch	Threads: Taper Inch Per Foot	Threads: Total Length of Thread "C"	Length of Barrel "D"
2	2.375	1.7810	±.0082	11½"	¾	1.625	See Note below
2	2.250	1.7810	±.0082	11½"	⅜	1.375	See Note below
2	2.125	1.7810	±.0082	11½"	⅜	1.375	See Note below
2½	2.75	2.2500	±.0082	11½"	¾	1.625	See Note below
3	3.25	2.7500	±.0082	11½"	¾	1.625	See Note below
4	4.25	3.7500	±.0102	11½"	¾	1.625	See Note below

Note—For barrels of all diameters, lengths of 5, 6, 8 and 10 feet are considered standard. Lengths of 4, 7, 9 feet and longer than 10 feet are considered special.

Special Note—The couplings at the ends of the barrels are considered as one unit of manufacture. The free end of couplings is threaded to A. P. I. standards.

TABLE 4

IMPORTANT GENERAL DIMENSIONS OF A. P. I. STANDARD MACHINED WORKING BARRELS

(All Dimensions in Inches at 68° F. Except Length "A")

Size of Working Barrel	Length "A" (In Feet)	Inside: Diameter "B"	Inside: Tolerance	Outside Diameter Top and Bottom Regular Type Couplings "C"	Outside Diameter Top and Bottom Inserted Type Couplings "C"	Maximum Outside Diameter of Lower Coupling Extension Shoe "D"	Threads on Tubing End of Couplings To be Standard	Standing Valve Seat: Bore Diameter "K"	Standing Valve Seat: Bore Diameter Tol.	Standing Valve Seat: Length of Taper "R"	Standing Valve Seat: Included Angle of Standing Valve Seat (Degrees)
2	5, 6, 7, 9, 11, 15 and 20	1.750	+.0012 .0002	3.25	2.875	2.875	A. P. I. Plain or Upset Tubing Thread	1.719	+.000 —.003	1.000	18
2½	"	2.250	+.0012 —.0002	4.00	3.500	3.500	"	2.219	+.000 —.003	1.125	18
3	"	2.750	+.0012 —.0002	4.50	4.000	4.000	"	2.719	+.000 —.003	1.250	18
4	By order to above lengths	3.750	+.0012 —.0002	5.50	5.000	5.000	"	3.719	+.000 —.003	1.375	18

Special Note—No outside diameter is specified for the shells of machined working barrels, as the shell is usually made from the standard tubing. Top and bottom regular couplings may be threaded on tubing end to fit either plain or upset tubing with no change in outside diameter of the coupling, as specified in the above table. The inserted type coupling can only be threaded for plain tubing because the outside diameter of the inserted type coupling is less than the outside diameter of the corresponding upset tubing coupling which does not provide enough stock for an upset tubing joint. However, in small casing, barrels with inserted couplings can be used to advantage on upset tubing by providing sub-nipples to make the connection from upset to plain tubing threads. In ordering machined barrels, operators should bear in mind these facts, and specify accordingly.

The standing valve shoe shall have a taper of 18 degrees (including angle) for all sizes.

TABLE 5

A. P. I. STANDARD DIMENSIONS FOR CLUTCH AND REVERSE GEAR FLANGE CONNECTIONS TO PUMPING ENGINES

Class of Engines Adapted to A. P. I. Rating at Normal Pumping Speed*	Clutch: Designation of Clutch Flange	Clutch: Diam. of Flange A	Reverse Gear Connections: Diam. of Female Recess B	Reverse Gear Connections: Depth of Female Recess C	Flywheel Connections: Diam. of Flange D	Flywheel Connections: External Diam. of Male Projection E	Flywheel Connections: Length of Male Projection F	Flywheel Connections: Diam. of Bolt Circle G	Flywheel Connections: Size of Bolt Hole H	Flywheel Connections: Size of Bolt I	Flywheel Connections: No. of Bolts (Equally Spaced)
35 h. p. and under	A. P. I. 12"	12"	6.003"	1/4"	12"	6.000"	31/6"	10¾"	57/64"	⅞"	6
Above 35 h. p.	A. P. I. 16"	16"	7.254"	9/32"	16"	7.250"	7/32"	13¾"	1-1/64"	1"	6

Note—An adapter or sub can be made to fit new A. P. I. flanges to old style clutch flanges.

*Rating "A"—See Figure 20.

Effect of Barometric Pressure on Orifice Meter Measurement

By B. M. LAULHERE and W. M. YOUNG

Presented at Annual Meeting of California Natural Gasoline Association, November, 1927

1. *Barometric Pressure and the Unit of Measurement*

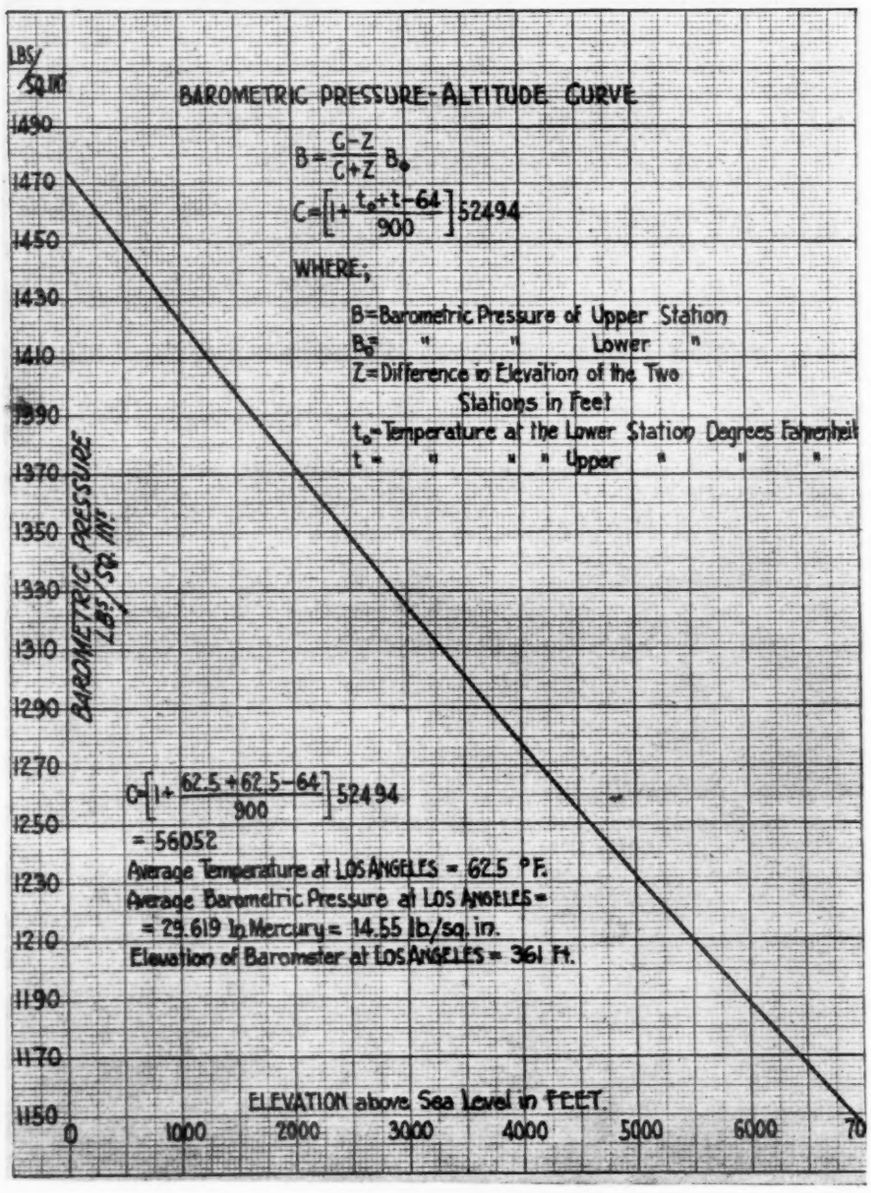
In orifice meter measurement, two absolute pressures must be definitely established. The first is the absolute base pressure, to be used in establishing the unit of measurement, and the other is the absolute pressure of the gas in the meter. The first is an arbitrary pressure, the second an actual one. The base pressure may or may not be selected with reference to the barometric pressure at the point of measurement. However, to obtain accurate volumes, the average barometric pressure at the point of measurement must be known, in order to establish the absolute pressure of the flowing gas.

The unit of gas measurement is referred to an absolute base, which is usually designated in pounds per square inch. This absolute pressure base is usually fixed as a certain number of ounces above the average barometric pressure at the point of measurement. Until recently, it has been standard practice to consider the average barometric pressure as 14.4 pounds per square inch; which is due to the fact that this value is representative of the average barometric pressure of most of the gas fields in the United States. To this barometric pressure, a pressure base usually expressed in ounces, was added, to arrive at the absolute pressure base to be used in establishing the unit of measurement.

In recent years, however, gas fields have been developed where the average barometric pressure varied both above and below 14.4 pounds per square inch, in fact, ranging from about 11.9 pounds per square inch to 14.7 pounds per square inch. With the development of gas in these fields, it became customary to use the average barometric pressure in these localities, plus a certain number of ounces (usually four ounces) as the absolute pressure base to be used in determining the unit of measurement.

The unit of measurement established in this manner varies with the barometric pressure at the point of measurement, and the results obtained are comparable only with measurements made at localities having the same barometric pressures.

For example, assume a pipe line where the average barometric pressure at one end is 14.4 pounds per square inch, and at the other end 11.4 pounds per square inch. At both ends a pressure base of four ounces is used, giving absolute pressure bases of 14.65 and 11.65 pounds per square inch, respectively, at the lower and upper ends of the line. Using these values in the coefficients, for measuring at each end of the line, will obviously give different volumes. A coefficient calculated on an absolute pressure base of 11.65 pounds per square inch at the upper end of the line, results in a volume approximately 20 per cent greater than the measurement obtained by using an absolute pressure base of 14.65 pounds per square inch at the lower end of the line. It is evident that if more gas is measured out of the line than is measured into it, the units of measurement must be different. In other words, the cubic foot used to measure the gas in is different from the cubic foot used to measure the gas out; hence the results obtained when different absolute pressure bases are used are not comparable. It is readily seen that if the average barometric pressure is used in calculating coefficients for meters at different elevations, it is impossible to compute pipe line losses without making corrections for these differences. This fact also holds true when calculating plant efficiencies. In some districts of Southern California as many as three units of measurement are in use in the same field; these are based on absolute pressures ranging from 14.65 pounds per square inch to 14.9 pounds per square inch. In fact, they are in use on the gathering system of one compressor station. The maximum error, or rather the difference due to the use of the various units of measurement in this case is 1,7 per cent.



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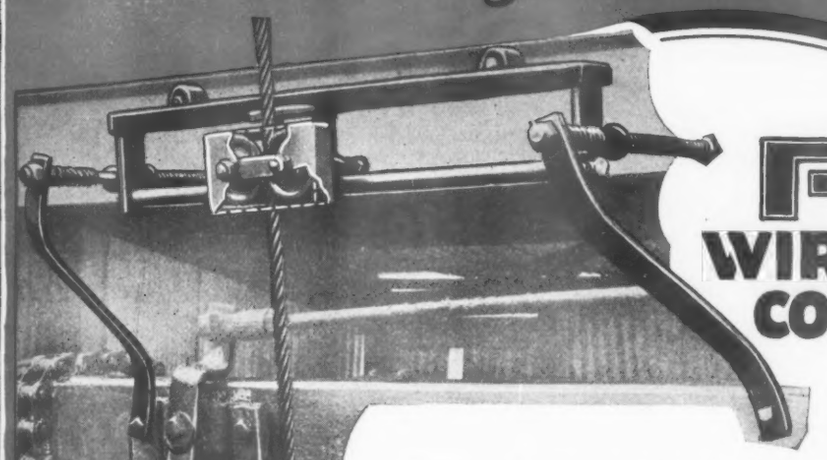

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Pressure Base

Since the weight of a unit volume of gas does not change, and neither does its heat content, it is apparent that through the use of different units of measurement, the unit volume will change and the heat content per unit volume will be different. Therefore, in making comparisons between gas and other fuels, it is necessary to know the absolute pressure base used in establishing the unit of measurement. The importance of this, when making comparisons with other fuels, is best illustrated by an example:

A gas measured, using an absolute pressure of 14.73 pounds per square inch and 60 degrees F. temperature, to establish the unit of measurement, contained 960 B.t.u. per cubic foot. The same gas measured, using an absolute pressure of 12.28 pounds per square inch and 60 degrees F. temperature, to establish the unit of measurement, will contain 800 B.t.u. per cubic foot. Assuming a barrel of oil to contain 4,800,000 B.t.u., this would be equivalent to 6000 cubic feet of gas, measured at an absolute pressure base of 12.28 pounds per square inch, and 5000 cubic feet of gas measured at an absolute pressure base of 14.73 pounds per square inch. It is evident that in making comparisons between gas and other fuels that proper thought must be given to the unit of measurement, to which the gas is referred; since the heat content of liquid fuel is the same at any altitude.

In establishing the unit of measurement, in this case the cubic foot, two conditions must be known. The first, is the base temperature, to which our standard cubic foot is to be referred, and the second, is the absolute pressure, to which this unit of measurement is to be referred. Regarding the first condition, the accepted base temperature, with very few exceptions, is 60 degrees F. In all gas measurement work, great care has always been taken to refer the flowing temperature to the standard base temperature, by making the necessary corrections. Regarding the second, there seems to have been a great deal of confusion or misunderstanding, as to how the barometric pressure affected orifice meter measurement.

There has apparently been a misunderstanding, that in order to make volumes comparable, the coefficients should be corrected for changes in barometric pressures.

Since all gas measurements are referred to as 60 degrees F. (520 degrees Abs.) temperature, irrespective of the atmospheric temperature at the point of measurement, it does not seem logical to change the absolute pressure base to conform to barometric pressures at the point of measurement.

It is time that a standard absolute pressure base should be adopted for use in establishing the unit of measurement, and eliminate many of the misunderstandings that have existed up to the present time. The accepted pressure standard now used in gas testing work is 30 inches of mercury (14.73 pounds per square inch) and 60 degrees F. temperature. This standard is also used for the measurement of manufactured gas. There seems to be no reason why a different standard should be used for the measurement of natural gas, and the following resolution was adopted by the Pacific Coast Gas Association at its annual convention at Santa Cruz last September:

Whereas: The present practice in the natural gas industry of basing gas measurements by means of orifice meter on the barometric pressure at the point of measurement tends to reduce in accuracy and complicate orifice meter measurement, and

Whereas: It would be desirable to have a uniform pressure datum for gas measurement throughout the gas industry, and

Whereas: A pressure datum of 14.73 pounds per square inch has been established and is universally used in the manufactured gas industry and in testing work, be it therefore

Resolved, that in orifice meter work a standard pressure of 14.73 pounds be recommended for use by all member companies and their associates in the natural gas industry.

2. *The Effect of Barometric Pressure on Pressure Extensions.*

The barometric pressure, however, does have an important bearing on the measurement of gas, but only after the unit of measurement has been established.

The formula used for calculating the flow of gas through an orifice meter is:

$$Q = C \sqrt{Ph}$$

in which

Q=The quantity of gas passing the orifice in cubic feet per hour.

=A coefficient, depending on the specific gravity of the gas, its temperature, size of pipe, size of orifice, location of pressure connections, etc.

P=Absolute gas pressure of the flowing gas.

h=Drop in pressure across the orifice in inches of water.

The absolute pressure, P, is the sum of the gauge pressure, and the barometric pressure at the point of measurement.

The present pressure extension tables are based on a barometric pressure of 14.4 pounds per square inch; therefore, in order to obtain correct results, a correction must be applied to the volumes calculated, when using these tables, if the barometric pressure at the point of measurement is other than 14.4 pounds per square inch.

This error becomes greater as the difference between the barometric pressure at the point of measurement and 14.4 increases; but it decreases rapidly as the pressure increases. However, when measuring gas at very low gauge pressures or at a partial vacuum, the error is considerable.

The accompanying tables show the error when measuring gas at various pressures, and different barometric pressures, at the point of measurement when the volumes have been calculated using pressure extensions based on a barometric pressure of 14.4 pounds per square inch.

Barometric pressure at point of measurement=14.73 per square inch.

Pressure	Error
20″ Vacuum	3.5% low
10″ ″	1.6% ″
0 lb. Gauge	1.15% ″
5 lb. ″	.85% ″
25 lb. ″	.4% ″
50 lb. ″	.25% ″
100 lb. ″	.15% ″

Barometric pressure at point of measurement=14.73 pounds per square inch.

20″ Vaccum	2.2% low
10″ ″	1.0% ″
0 lb. Gauge	0.7% ″
5 lb. ″	0.5% ″
25 lb. ″	0.25% ″
50 lb. ″	0.2% ″
100 lb. ″	0.1% ″

Pressure	Error

Barometric pressure at point of measurement=14 pounds per square inch.

Pressure	Error
20″ Vacuum	4.45% high
10″ ″	1.9% ″
0 lb. Gauge	1.4% ″
5 lb. ″	1.05% ″
25 lb. ″	0.5% ″
50 lb. ″	0.3% ″
100 lb. ″	0.15% ″

Barometric pressure at point of measurement=13 pounds per square inch.

Pressure	Error
20″ Vacuum	16.3% high
10″ ″	6.9% ″
0 lb. Gauge	5.0% ″
5 lb. ″	3.7% ″
25 lb. ″	1.8% ″
50 lb. ″	1.1% ″
100 lb. ″	0.6% ″

Barometric pressure at point of measurement=12 pounds per square inch.

Pressure	Error
20″ Vacuum	30.9% high
10″ ″	14.1% ″
0 lb. Gauge	8.7% ″
5 lb. ″	6.4% ″
25 lb. ″	3.0% ″
50 lb. ″	1.9% ″
100 lb. ″	1.1% ″

It is apparent that the error caused by the use of these tables, at elevations where the barometric pressure is other than 14.4 pounds per square inch, is of great importance since it is not compensating.

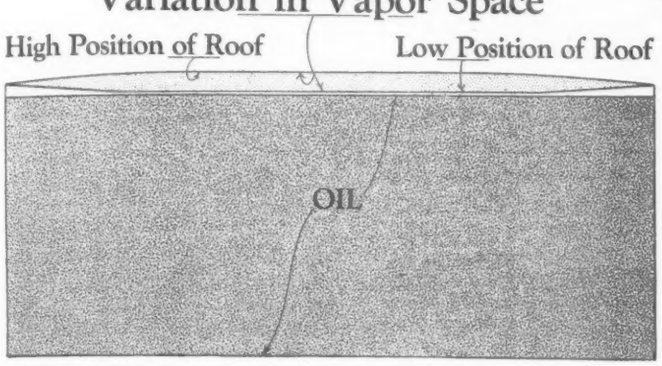
If the barometric pressure at the point of measurement is greater than 14.4 pounds per square inch, the volume resulting from the use of pressure extension tables based on 14.4 pounds is less than the true volume, and greater than the true volume if the barometric pressure at the point of measurement is less than 14.4 pounds.

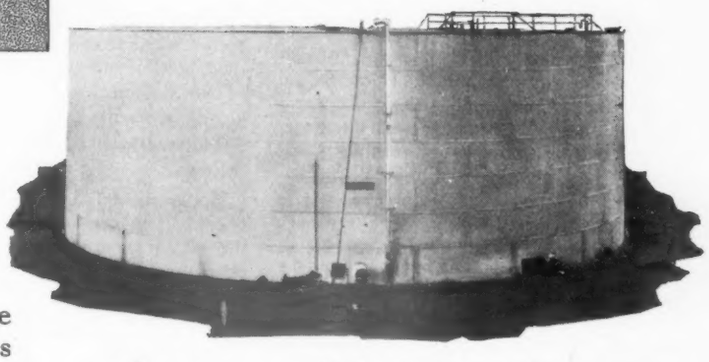
The correction to apply to the volume, obtained by the use of pressure, extension tables, in order to correct for the actual barometric pressure at the point of measurement is:

$$\text{Multiplier} = \frac{\textit{Gauge Press} + \textit{Baro. at point of measurement}}{\text{GAUGE PRESS.} + 14.4}$$

A method of making this correction that saves any calculation, and also permits of the use of the present pressure extension tables, is to make the necessary adjustment to the gauge. If the barometric pressure is below 14.4 pounds, set the static pres-

A new Movement *in tank roofs*





OIL MEN are familiar with the Wiggins Floating Roof which prevents evaporation by moving up and down with the volume of oil in the tank. The designer of this floating roof has now developed a companion type, the Wiggins Breather Roof. It does not move in the sense formerly associated with Wiggins Roofs. But it does stop evaporation by movement.

This movement—revolutionary in tank roofs—is simply a flexing. The edges of the roof are attached rigidly to the tank rim. When the temperature rises during the day the vapor pushes the roof up and when the temperature falls at night the roof settles down with the reduction in vapor volume. On a 55,000-barrel tank the center of the roof moves from an extreme lower position approximately 10 inches below the tank rim to an upper position about 10 inches above the horizontal. Except in rare cases, the variation in vapor volume will not equal the provision made for it under this roof and there will therefore be no loss of vapor through thermal breathing. A mechanical volume relief valve set to open when the roof reaches a predetermined upper position and a vacuum relief opening at the extreme low limit of travel protect the roof during filling and emptying and extreme variations in temperature.

The Wide acceptance of the Wiggins Floating Roof is ample evidence that oil men appreciate the necessity for stopping evaporation losses. The floating roof is unequalled for working storage where evaporation includes filling and emptying losses. But on standing storage the breathing losses continue day after day through long periods of storage. The Wiggins Breather Roof is a real, economical preventive measure designed specially to prevent this loss. It has already demonstrated its effectiveness in the field. Ask our nearest office for further data. The new booklet on the Wiggins Breather Roof for standing storage will be sent on request.

CHICAGO BRIDGE & IRON WORKS

Chicago, 2142 Old Colony Bldg.
New York, 3144 Hudson Terminal Bldg.
Cleveland, 2241 Union Trust Bldg.
Dallas, 1638 Dallas National Bank Bldg.
Atlanta, 1055 Healey Bldg.
San Francisco, 1050 Rialto Bldg.

FLOATING *for working storage*

WIGGINS ROOFS

BREATHER *for standing storage*

OW2-10-Gray

sure pen, a space below the zero line on the chart equal to the difference between the barometric pressure and 14.4 pounds. If the barometric pressure at the point of measurement is greater than 14.4 pounds, set the pressure pen above zero a space equal to the difference between the barometric pressure and 14.4 pounds.

For example: When the barometric pressure is 12.2 pounds per square inch, set the static pen 2 pounds below zero, when the gauge is open to the atmosphere. When a pressure is applied until the gauge shows a pressure of 20 pounds, the absolute pressure is (20 + 2) + 12.4=34.4 pounds. By making this adjustment to the static pressure pen, a static pressure is recorded that corresponds to the absolute pressure used in calculating the pressure extension tables now in use and based on a barometric pressure of 14.4 pounds. Consequently, if the static pressure pen is adjusted to make the necessary allowance between the barometric pressure at the point of measurement and 14.4 pounds per square inch as suggested, the pressure extension tables may be used with no other correction to obtain correct volumes. This method of making corrections for the barometric pressure is satisfactory where measurements are made under pressure; but in cases such as the measurements from heading wells, where during part of the time the gas is under a pressure and part of the time under a partial vacuum, it is not to be recommended. It has been tried on compound springs, but the results have not been satisfactory.

Due to a wide range of the static pressure variations, or other reasons, it might not be advisable to use either of the above methods of making corrections. In such cases, a method of calculating volumes with a slide rule may be resorted to. A slide rule has been devised that can be obtained in graduations suited to any barometric pressure and the volumes obtained with this rule are correct for the particular barometric pressure for which it has been calibrated, no further corrections being necessary.

The committee has given considerable thought to the making of changes in barometric pressures for use under the radical, and make the following recommendations for establishing the average barometric pressure:

First: That the average barometric pressure to be used under the radical be changed for each 250 feet elevation.

Second: That the average barometric pressure to be used under theradical be the average barometric pressure of the point midway between the 250 foot stations.

For example: The average barometric pressure at an elevation of 125 feet would be the barometric pressure at an elevation of 375 feet would be the barometric pressure for use under the radical, for all meters between sea level and an elevation of 250 feet, and the average barometric pressure for use between 250 feet elevation and 500 feet elevation.

Using this suggested method, the greatest error would only be that due to the difference in absolute pressures, as they would be affected by a difference in elevation of 125 feet. Except in cases of very high vacuum this is negligible. At 20 inches of vacuum this amounts to 0.7 per cent, at sea level, and one per cent at 4000 feet elevation. At atmospheric pressure, the maximum error is 0.2 per cent for the same range of elevations.

It is obvious that difficulties may be encountered in arriving at the average barometric pressures to use under the radical at various elevations. Due to monthly and seasonal changes, it would be impractical to take a barometer to the meter station to determine the barometric pressure. Even an average of readings, extending over a short period of time, would be unsatisfactory.

Mr. F. A. Hough, in a paper presented before the Pacific Coast Gas Association, September, 1927, suggested a method of determining the average barometric pressure, for use in connection with orifice meter measurement. It is entirely practical, and if adopted, would eliminate all of the difficulties encountered in arriving at the absolute pressure.

The method suggested by Mr. Hough follows:

To facilitate the using of true absolute pressures in calculating orifice meter data, the chart shown has been plotted. This chart gives values for the barometric pressure at elevations ranging from sea level to 7000 feet, and is applicable, the committee believes, to all points in Southern California where orifce meters are used. The data for this chart was obtained as follows: From the United States Weather Bureau in Los Angeles, the average barometric pressure for the period from 1878 to 1924 was obtained, as well as the average temperature for the same period. The assumption was then made that the average temperature at all other points in Southern California is the same as that of Los Angeles (a rather large deviation from this assumption would cause a negligible error in the barometric pressure reported) and that the average barometric pressure for all points in Southern California differs from that of Los Angeles only because of difference in elevation. The elevation of the weather bureau was obtained and the barometric pressure for a series of elevations was calculated by means of the following formulae taken from Smithsonian Physical Tables, 7th Revised Edition, page 145.

$$Z=C\frac{(Bo-B)}{(Bo+B)}$$

$$C \text{ (in feet)}=52404\left(1+\frac{to+t}{900}-64\right)$$

in which Z= Difference in height of two stations in feet.

Bo=Barometric pressure at lower station in inches of mercury.

B=Barometric pressure at upper station in inches of mercury.

to=Temperature at the lower station in degrees Fahr.

t=Temperature at the upper station in degrees Fahr.

Sample Calculation:

Average barometric pressure at Los Angeles=29.619 inches mercury.

Average temperature at Los Angeles= 62.5 degrees F.

Elevation of barometer at Los Angeles =361 feet.

Elevation of upper station=600 feet.

Average temperature at upper station= 62.5 degrees F.

$$C=52494\left(1+\frac{62.5+62.5}{900}-64\right)$$

$$=56052$$

Transposing the equation $Z=C\frac{(Bo-B)}{(Bo+B)}$ we find that

$$B=\frac{(C-Z)}{(C+Z)}Bo$$

$$B=\frac{56052-(600-361)\times 29.619}{56052+(600-361)}$$

B=29.368 inches of mercury=14.42 pounds per sq. inch.

To determine the average barometric pressure at any meter station, it is only necessary to look up the elevation of the meter on a contour map and then read from the chart the barometric pressure corresponding to the elevation of the station. This procedure will doubtless give a value nearer to the average barometric pressure than could be determined by a few observations at the meter by means of an aneroid barometer, and the labor involved is less. If a chart, such as this one, could be generally accepted as standard, disagreement among various companies as to the average barometric pressure at any given point, could be eliminated. A useful figure disclosed by this chart is that a difference of 100 feet causes a difference in barometric pressure of approximately .05 pound per square inch of .1 inches of mercury.

Natural Gasoline Meet to Meet at Tulsa

Tulsa, Oklahoma. — Dates for the 1928 convention of the Natural Gasoline Association of America are May 22, 23 and 24. All sessions will be held in the Mayo hotel, Tulsa.

For the coming convention the association will reinstate one of its first meeting features, a visit to Mid-Continent natural gasoline plants. The program proper and its entertainment will be concluded the first two days of the meeting. The third day will be devoted to plant inspection and the Seminole section has been selected as the district to be visited.

There will be three sessions the first day, morning, afternoon and evening. Two sessions the second day, morning and afternoon, will be followed by the annual banquet in the evening. The third day will be devoted to the field trip.

S. C. Carner, Roxana Petroleum Corporation, is chairman of the program committee. Its other members are E. L. Peck, Empire Gasoline Company; and Emby Kaye, Skelly Oil Company.

PERMITS GRANTED FOR NEW WELLS

CALIFORNIA

BELRIDGE—Berry Oil Co., No. 13, 31-28-21.

HUNTINGTON BEACH—P. Campbell, No. 1, 10-6-11.

INGLWOOD—Standard Oil Co., L. A. 1, 55, 17-2-14.

KERN COUNTY—North American Consolidated Oil Co., Wallace 1A, 5-25-26.

KERN FRONT—California Star Oil Co., No. 1-80, 22-28-27. General Pet. Corp., Sill 5, 26-28-27. George F. Getty, Inc., McDougall 4, 26-28-27; McDougall 7, 26-28-27. Petroleum Securities Co., No. 12, 22-28-27. General Pet. Corp., Sill 32, 26-28-27.

LONG BEACH—Shell Co.'s C. C. 2, 29-4-12; Patton-Wilson 6, 29-4-12; Pickler 7, 29-4-12; Wilbur 4, 29-4-12. Miley Oil Co., Miley-Signal 2, 19-4-12. Delaney Pet. Corp., C-1, 29-4-12. George F. Getty, Inc., L. B. 25, 29-4-12. California Pet. Corp., Croswell 2, 30-4-12; F. T. 4, 19-4-12. Dabney-Johnston Oil Corp., No. 8, 24-4-13. Marine Corp. and Cal-Mex O. & R. Co., No. 26, 19-4-12.

RICHFIELD—Standard Oil Co., A. U. 4, 34-3-9.

RINCON — Chanslor-Canfield Midway Oil Co., Hobson C-5, 8-3-24; Hobson B-2, 8-3-24.

ROUND MOUNTAIN—Elbe Land Dev. Co., No. 11, 20-28-29.

SAN MATEO COUNTY—Shell Co., Butts 1, 16-6-5.

VENTURA — Associated Oil Co., Dabney Lloyd 2, 23-3-23.

VENTURA COUNTY — Standard Oil Co., Saticoy-Citrus 3, 15-2-22.

WHEELER RIDGE—Standard Oil Co., No. 32, 27-11-20.

KANSAS

BUTLER COUNTY—La Rob Oil Co., Sluss 1, se c ne sw, 6-27-6e.

COWLEY COUNTY — Roxana Pet. Corp., Martin 1, nw c sw, 19-31-3e. The Texas Co., Hittle 2, nec nw se 21-21-4e. Roth & Faurot, Wagner 1, sw c 31-33-4e.

ELK COUNTY—Landon et al, Beatty 1, sw c se nw, 30-30-11e.

GREENWOOD COUNTY — Empire Oil & Ref. Co., Duby 19, ne c nw nw, 23-22-11e. Theta Oil Co., Fankhouser 6, ne c se se, 23-22-12e. Christy et al, Connoughey 2, se c sw ne, 36-24-12e. Cross et al, Hoover 3, nw c ne se, 36-24-12e. Rogers et al, Wagner 1, nw c, 8-27-11e.

MARION COUNTY—Phillips Pet. Co., McCoy 2, se c ne ne, 22-17-4e. Prairie O. & G. Co., Rezcinek 1, nw ne sw, 22-17-4e.

SUMNER COUNTY—Roxana, Shore 5, se c sw se se, 24-31-2e. Dickey et al, Tedger 1, c se sw, 18-35-1e.

WILSON COUNTY—O. W. Culp & Miller, Willoughby 1, nw c ne, 25-27-13e.

WOODSON COUNTY—Pryor & Lockhart, Sasse 1, nw c ne sw, 36-23-13e.

OKLAHOMA

CARTER COUNTY—Magnolia, Bumpass 5, sw nw se, 33-1s-3w; Hefner 3, ne c sw, 33-1s-3w.

COMANCHE COUNTY—Green et al, Wilson 1, c ne sw, 14-1n-12w.

CREEK COUNTY—Madden & Madden et al, Watson 1, sw c nw sw, 20-16-8e. Holmes et al, Stidham 1, se c ne nw se, 24-17-9e. Duquesne Oil Co., Walker 4, ne c nw nw, 23-17-8e. Pure Oil Co., Weaver 3, nw c ne nw, 16-18-11e. Haddock et al, Cook 1, se c ne, 14-18-9e. Roxana, Sewell 5, nw c ne ne, 18-19-9e.

GRADY COUNTY—Carter Oil Co., Wham 2, sw nw se, 34-3n-5w. Watchorn O. & G. Co., Petti 1, c sw ne, 14-4n-8w. Twin State Oil Co., Pettit 1, c nw ne, 14-4n-8w. Little Nick Oil Co., McCaughtry 4, se c ne nw nw, 35-5n-8w.

GRANT COUNTY—Argo Oil Co., Crouch 3, nw ne, nw, 23-27-3w; Swaggert 1, sw se se, 15-27-3w.

JEFFERSON COUNTY—Becker et al, Seay 1, sw se sw, 34-6s-5w.

KAY COUNTY—Ostot Dev. Co., Barr 3, nw se nw, 16-27-1w. Ivan Otstot et al, Schaal Land 3, ne nw, sw, 36-28-1w. Royal O. & G. Co., Fulton 1, c se ne, 12-28-1w. Harris & Haun, Fulton 1, c sw se, 12-28-1w; Fulton 1, sw c nw, 30-29-1e. Kiowa O. & G. Co., School Land 1, ne c, 36-29-1w.

MUSKOGEE COUNTY—Hale-Ford Oil Co., Clark 2, se c sw nw se, 6-14-19e.

OKFUSKEE COUNTY—Edgewood Oil Co. et al, McKellop 1, nw c, 5-13-10e.

OKMULGEE COUNTY—Moffitt & Buckles, Grayson 6, c w l se nw, 16-11-12e. Campbell et al, George 2, c s l ne sw, 2-15-12e. A. Belae et al, Rentie 11, c e l w½ se nw, 35-15-14e.

OSAGE COUNTY—New England Oil & Pipe Line Co. 1, se c sw, 17-23-10e.

PONTOTOC COUNTY — Ada Cement Co., Mathews 1, c sw nw, 24-4n-7e.

POTTAWATOMIE COUNTY — Pierce Oil Corp., Sanders 1, nw c sw, 20-7-4e. T. B. Slick, Gose 1, se c ne, 26-7-3e. Magnolia, School Land 1, sw c ne, 36-7-4e.

SEMINOLE COUNTY—Ramsey et al, Hulwa 2, se sw ne, 7-5n-8e. Mid-Continent Pet. Corp., Fleet 2, ne nw se, 7-5-8e; Harjo 1, se ne ne, 2-9-5.

STEPHENS COUNTY—Magnolia, Martin 3, nw ne ne, 13-1s-4w. M. Green 2, nw c ne, 13-1s-4w. Humble O. & R. Co., Perkins 2, sw c se, 12-1s-4w. American Pipe Line Co., Bond 1, nw c sw, 7-2s-7w. McAllister et al, Dexter 2, ne c se se nw, 34-1s-8w. Margay Oil Corp., Lane 5, se c sw nw sw, 7-1s-8w. Magnolia Pet. Co., Duke 1, sw nw nw, 2-1n-5w. Smith & Law, Malechi 1, ne c sw ne, 31-1n-8w.

TULSA COUNTY — Regal O. & G. Co., Mitchell 4, c e l w ½ se, 5-9-11e. Commercial Drlg. Co., Ishmael 1A, sw c ne, 24-18-12e.

WAGONER COUNTY — H. C. Demms, Sarty 10, sw c ne sw, 31-18-15e.

LOUISIANA

ASCENSION PARISH—Gulf Ref. Co. of La., Houston, United Lands Co. 5, 15-10s-4e, approx 2200 ft w and 1000 ft n of se c.

BOSSIER PARISH—Nat. Gas Prod. Co., Shreveport, Floyd 1, 25-23n-12w, 1980 ft n and 1290 ft e of swc.

CALCASIEU PARISH—Gulf Ref. Co. of La., Houston, Industrial Lbr. Co. 10, 20-9s-12w, approx 100 ft s and 80 ft e of nw cor of sw¼. Union Sulphur Co., Sulphur, Union Sulphur Co. 723, 29-9s-10w, 1179 ft n and 640 ft w of sec sw nw; Union Sulphur Co. 724, 29-9s-10w, 329 ft n and 61 ft w of sec sw nw.

JEFFERSON DAVIS PARISH — Eunice-Welsh Oil Co., Euince, Walshe 2, 21-9s-5w, 400 ft n and 300 ft w of se c.

OUACHITA PARISH—Moody & Seagraves, Shreveport, United States 1, 1-19n-3e, 660 ft n and 660 ft e of sw c.

RICHLAND PARISH—Oliver & Masters, Shreveport, Margye Hatch 1, 2-15n-5e, 1366 ft s and 660 ft w of ne c. Moody & Seagraves, Houston, Sartor A-1, 8-16n-6e, 1980 ft n and 278 ft w of se c.

WEBSTER PARISH — J. P. Hawkins, Shreveport, Lewis 1, 1 5-23n-9w, 300 ft s and 300 ft e of nw c s e nw.

WEEKLY COMPARISON OF NEW WELLS

Following is a condensed table giving a comparison of permits or locations made for new wells during the past year in Kansas, Oklahoma, Arkansas, Louisiana, Texas, California and the Mountain States:

	Week ending Feb. 4	Previous week	Total this month	Total this year	This week last year	This month 1927	Total same date 1927	Year total 1927
Arkansas	3	2	3	14	9	9	41	329
California	29	26	29	117	31	31	133	1,226
Louisiana	10	8	10	60	15	15	83	812
Kansas	16	35	16	102	26	26	143	972
Oklahoma	48	67	48	247	72	72	550	3,702
Texas	96	113	96	518	177	177	1,085	8,665
Mountain States	..	..	..	..	13	13	53	494
Totals	202	251	202	1,058	343	343	2,088	16,149

ARKANSAS

LAFAYETTE COUNTY—Ken-Saw Pet. Co., Fee 1, awd, 31-19-24, 200 ft n and 200 ft e of sw c sw.

UNION COUNTY—Pure Oil Co.'s Gregory 1, 10-17-14, ne c se se. Semroll et al, Finley 1, 12-17-14, 150 ft s and 200 ft w of ne c s ne sw.

TEXAS

ARCHER COUNTY—Gulf, Houston, Netherton 1, S 95, Am Trib sur, 660 ft from e and 1971 ft from s line; Taber 1, DCSL sur, 750 ft from n and 150 ft from e line. Texas Co., Wichita Falls, Garvey 1, 1856 TE&L sur, 150 ft from s and e lines. Panhandle Ref. Co., Wichita Falls, Garvey 2, 1856 TE&L sur, 300 ft n of No. 1. Perkins, Cullum & Continental Oil Co., Wichita Falls, Wilson 8, B 114, Amer Trib sur, 325 ft n of No. 7. Golding & Cochran, Wichita Falls, Prideaux 22, J. Dorsey sur, 300 ft n of No. 15. Panhandle Ref. Co., Wichita F alls, Farmer 3, S 1, J. Pointevent sur, 250 ft e of No. 2.

AUSTIN COUNTY—Humble, Houston, Wilson 1, M. R. Williams sur 1249 ft from nw and 1898 ft from ne line.

BROWN COUNTY—Humble, Cisco, Allen A-4, J. Delgado sur, 200 ft from n and 600 ft from e line. M. L. Richards, Wichita Falls, Curry 2, No. 637 E. L. Betts sur, 150 ft from s and e lines. Pandem Oil Co., Wichita Falls, Curry 3, No. 637 E. L. Betts sur, 150 ft from n and e lines; Hutton 2, S 4, J. A. Noble sur, 300 ft n of No. 1. Syndicated Oil Corp., Abilene, Bush 1, No. 624 J. Kenney sur, 150 ft from n and e lines.

CALLAHAN COUNTY—Peer Oil Corp., Ft. Worth, Harris 1, S 19, BBB&C sur, 150 ft from n and w lines. Warren-Hayes Oil Corp., Cisco, Brandon 2, 2267 TE&L sur, 1350 ft from w and 450 ft from s line. W. R. Barber, Cisco, McCandless 1, 3200 TE&L sur, 900 ft from n and e lines.

CRANE COUNTY—Gulf, Ft. Worth, McElroy 48, S 200, B F, CCSD&RGNG sur, 660 ft e of No. 46.

CROCKETT COUNTY—Osage Oil Corp., Tulsa, Halff 3, S 70, B 1, I&GN sur, 330 ft e of No. 2; 20, 330 ft se of No. 2.

COMANCHE COUNTY—E. P. Weister, Tulsa, Lee 1, W. Lindley sur, se cor.

EASTLAND COUNTY—Central Texas Nat. Gas Co., Gorman, Collins 1, S 3, B 2, H&TC sur, 200 ft from w and 300 ft from n line. Charter Oil Co., Brownwood, Roper 1, No. 262 BBB&C sur, 200 ft from n and 600 ft from w line.

FORT BEND COUNTY—Sun Oil Co., Beaumont, Kasparek 2, S Miller sur, 250 ft e of No. 1; Farmer 7, S. Miller sur, 400 ft se of No. 4.

GRAY COUNTY—Danciger O. & R. Co., Fort Worth, Bradford 1, S 123, B B2, H&GN sur, 330 ft from n and e lines; Chapman 1, S 7, B 26, H&GN sur, 330 ft from w and 510 ft from s line. Gulf, Fort Worth, Bowers 5, S

(Continued on page 80)

CRUDE OIL PRICE QUOTATIONS

CRUDE PRICE CHANGES

February 1—Effective at opening of market today, Coltex Refining Company posted a reduction of 13 cents per barrel on all grades of crude in Howard and Mitchell Counties, West Texas district, thus making new price 80 cents.

February 7.—Effective at the opening of the market today, the Louisiana Oil & Refining Corporation reduced the market price on Smackover crude 10 cents per barrel, making the posted price of below 24 gravity 75 cents, and 24 and above, 90 cents.

CURRENT POSTINGS

	Feb. 8 1928
EASTERN STATES	
New York Transit	$2.80
Bradford District	2.80
National Transit	2.65
Southwest	2.65
Eureka	2.60
Buckeye	2.35
Macksburg	2.80
Gaines	2.60
Somerset	1.60
Cabell	1.50
Ragland	.95
Corning, 35-cent grade	1.45
Corning, 25-cent grade	1.55
Keister	1.10
CENTRAL STATES	
Illinois	1.60
Indiana	1.48
Lima	1.71
Plymouth	1.33
Princeton	1.60
Waterloo	1.35
Wooster	1.57
WESTERN KENTUCKY	
Posted by Stoll Refining Company for crude from Allen, Warren, Franklin, Davies, Barren, All grades	1.50
MID-CONTINENT	
Prairie, Sinclair, Gulf, Texas and Magnolia*	
28 to 28.9 gravity	1.12
29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.9 gravity	1.20
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 to 37.9 gravity	1.30
38 to 38.9 gracity	1.32
39 to 39.9 gravity	1.34
40 to 40.9 gravity	1.36
41 to 41.9 gravity	1.38
42 to 42.9 gravity	1.40
43 to 43.9 gravity	1.42
44 to 44.9 gravity	1.44
45 to 45.9 gravity	1.46
46 to 46.9 gravity	1.48
47 to 47.9 gravity	1.50
48 to 48.9 gravity	1.52
49 to 49.9 gravity	1.54
50 to 50.9 gravity	1.56
51 to 51.9 gravity	1.58
52 and above	1.60

*Magnolia's price for below 30 gravity is $1.05.

NORTH AND CENTRAL TEXAS

Ranger, North Texas, Mexia, Powell, Richland, Wortham, Currie, Moran, Nocona and Lytton Springs crude.

Humble O. & R. Co. and Texas Co.*

	Feb. 8 1928
Below 25 gravity	.90
25 to 25.9 gravity	1.06
26 to 26.9 gravity	1.08
27 to 27.9 gravity	1.10
28 to 28.9 gravity	1.12
29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.0 gravity	1.20
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 to 37.9 gravity	1.30
38 to 38.9 gravity	1.32
39 to 39.9 gravity	1.34
40 to 40.9 gravity	1.36
41 to 41.9 gravity	1.38
42 to 42.9 gravity	1.40
43 to 43.9 gravity	1.42
44 to 44.9 gravity	1.44
45 to 45.9 gravity	1.46
46 to 46.9 gravity	1.48
47 to 47.9 gravity	1.50
48 to 48.9 gravity	1.52
49 to 49.9 gravity	1.54
50 to 50.9 gravity	1.56
51 to 51.9 gravity	1.58
52 and above	1.60

Corsicana Heavy, $1.00 per barrel, posted by Magnolia.

*The Texas Company's Postings begin at 28 to 28.9.

SOUTH TEXAS

Mirando	1.00

SOMERSET

Grayburg

Below 33 gravity	1.05
33 to 33.9 gravity	1.07
34 to 34.9 gravity	1.09
35 to 35.9 gravity	1.11
36 to 36.9 gravity	1.13
37 to 37.9 gravity	1.15
38 and above	1.17

GULF COAST

Grade "A" all companies	1.20
Gulf Coast Light Oil, below 25	1.15
25 to 25.9 gravity	1.17
26 to 26.9 gravity	1.19
27 to 27.9 gravity	1.21
28 to 28.9 gravity	1.23
29 to 29.9 gravity	1.25
30 to 30.9 gravity	1.27
31 to 31.9 gravity	1.29
32 to 32.9 gravity	1.31
33 to 33.9 gravity	1.33
34 to 34.9 gravity	1.35
35 to 35.9 gravity	1.37
36 to 36.9 gravity	1.39
37 to 37.9 gravity	1.41
38 to 38.9 gravity	1.43
39 to 39.9 gravity	1.45
40 and above	1.47

*Humble Oil & Refining Company's postings on Gulf Coast Light stop at 35 to 35.9. Its price on all crudes above 35 to $1.37 per barrel.

Magnolia Petroleum Company's postings stop at 31 to 31.9.

CALIFORNIA CRUDE OIL PRICES AT THE WELL

Following are the current prices offered by Standard Oil Company for crude oil at the well: (Price per barrel of 42 gallons in fields indicated.)

Gravity (degrees)	Signal Hill	Seal Beach	Huntington Beach	Inglewood	Olinda-Brea Canon	Athens-Rosecrans Dominguez	Torrance	Richfield	Whittier La Harbra		Coyotte Hill	Santa Fee Springs	Newhall McKittrick Kern River	Midway Sunset Elk Hills	Buena Vista Hills	Lost Hills	Coalinga	Wheeler
14-14-9	$ .85	$ .85	$ .85	$ .85	$ .85	$ ..	$ .85	$ .85	$ .85	$ .85	$ .85	$ ..	$ .75	$ .75	$ .75	$ .75	$ .75	$ .75
15-15-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
16-16-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
17-17-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
18-18-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
19-19-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
20-20-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	..	.77	.77	.77	.76	.76
21-21-9	.86	.86	.86	.86	.86	..	.86	.86	.85	.85	.86	.85	..	.79	.79	.79	.77	.77
22-22-9	.87	.87	.87	.87	.87	..	.87	.87	.85	.85	.87	.85	..	.81	.81	.81	.78	.78
23-23-9	.88	.88	.88	.88	.88	..	.88	.88	..	.85	.88	.85	..	.83	.83	.83	.79	.79
24-24-9	.89	.89	.89	.89	.89	..	.89	.89	..	.85	.89	.85	..	.85	.85	.85	.80	.80
25-25-9	.90	.90	.90	.90	.90	.90	.90	.90	..	.86	.90	.86	..	.87	.87	.87	.81	.81
26-26-9	.92	.92	.92	.92	.92	.92	.92	.92	..	.87	.91	.87	..	.89	.89	.89	.83	.82
27-27-9	.94	.94	.94	.94	.94	.94	.94	.94	..	.88	.92	.88	..	.91	.91	.91	.85	.83
28-28-9	.96	.96	.96	.96	.96	.96	.96	.96	..	.89	.93	.89	..	.93	.93	.93	.87	..
29-29-9	.98	.98	.98	..	.98	.98	..	1.00	..	.91	.95	.93	..	.99	.99	.99	.91	..
30-30-9	1.00	1.00	1.00	..	1.00	1.00	..	..	..	..	..	.95	..	1.02	1.02	1.02	.93	..
31-31-9	1.03	1.03	1.03	..	..	1.03	..	..	..	..	..	.97	..	1.05	1.05	1.05	.95	..
32-32-9	1.06	1.06	1.06	..	..	1.06	..	..	..	..	..	.99	..	1.08	1.08	1.08	.97	..
33-33-9	..	..	..	..	..	1.09	..	..	..	..	..	1.01	..	..	..	1.11	.99	..
34-34-9	..	..	..	..	..	1.12	..	..	..	..	..	1.03	..	..	..	..	1.01	..
35-35-9	..	..	..	..	..	1.15	..	..	..	..	..	1.06	..	..	..	..	..	..
36-36-9	..	..	..	..	..	1.18	..	..	..	..	..	1.09	..	..	..	..	..	..
37-37-9	..	..	..	..	..	1.21	..	..	..	..	..	1.12	..	..	..	..	..	..
38-38-9	..	..	..	..	..	1.24	..	..	..	..	..	1.15	..	..	..	..	..	..
39-39-9	..	..	..	..	..	1.27	..	..	..	..	..	..	..	..	..	..	..	..
40-40-9	..	..	..	..	..	1.30	..	..	..	..	..	..	..	..	..	..	..	..
41-41-9	..	..	..	..	..	1.33	..	..	..	..	..	..	..	..	..	..	..	..
42-42-9	..	..	..	..	..	1.36	..											

1928

PETROLEUM RECTIFYING COMPANY OF CALIFORNIA

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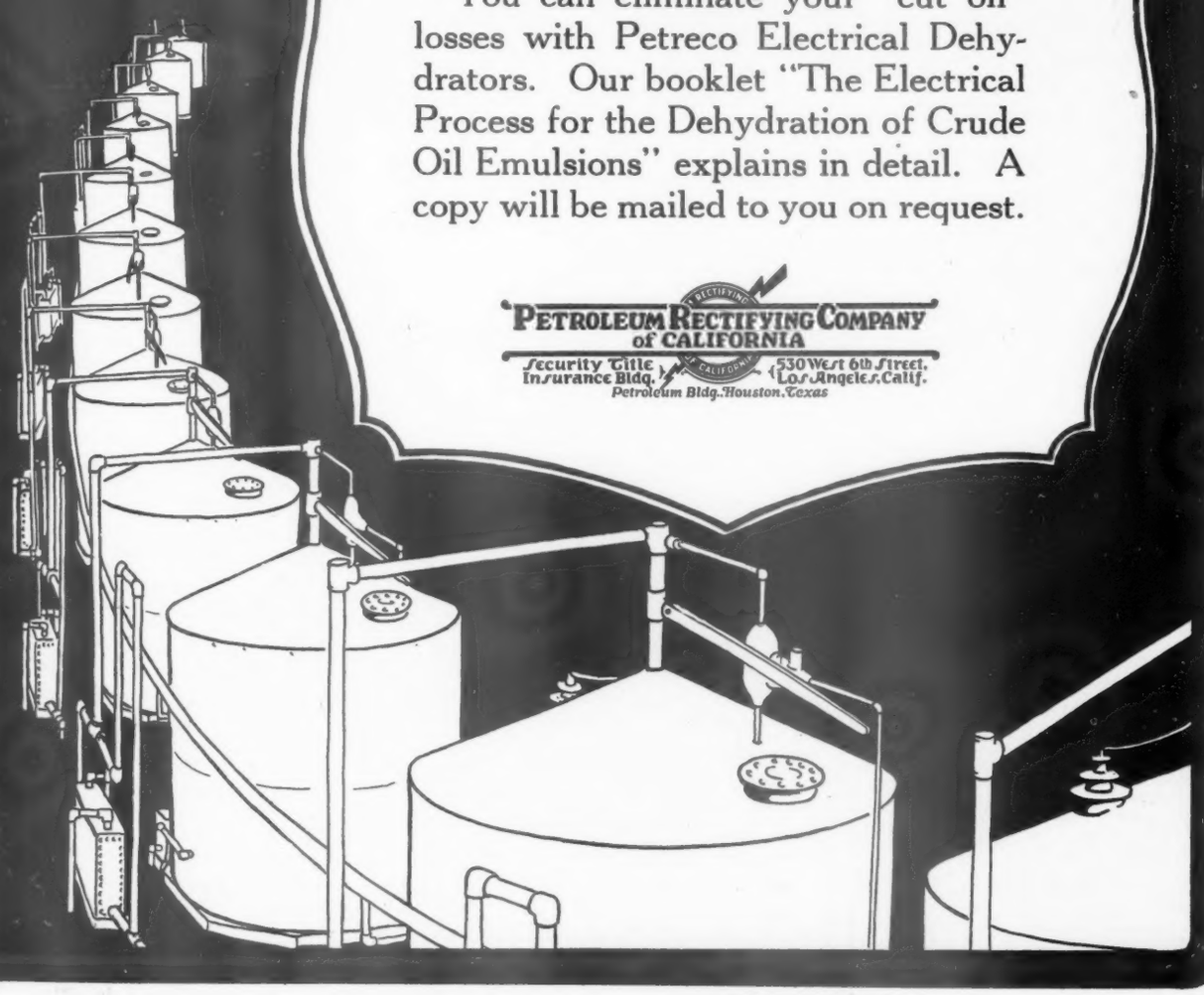


	Feb. 8 1928
MARKHAM	
The Texas Company	
All grades	1.00
LULING	
All grades	1.00
PANHANDLE	
(Humble Oil & Refining Company and Magnolia Petroleum Company, Gulf Pipe Line Company and Kay County Gas Company)*	
Hutchinson, Carson and Wheeler counties, all grades	.75
*Gulf and Kay County do not post in Wheeler County.	
Gray County	
(Humble Oil & Refining Company)	
28 to 28.9 gravity	.80
29 to 29.9 gravity	.82
30 to 30.9 gravity	.84
31 to 31.9 gravity	.86
32 to 32.9 gravity	.88
33 to 33.9 gravity	.90
34 to 34.9 gravity	.92
35 to 35.9 gravity	.94
36 to 36.9 gravity	.96
37 to 37.9 gravity	.98
38 to 38.9 gravity	1.00
39 to 39.9 gravity	1.02
40 to 40.9 gravity	1.04
41 to 41.9 gravity	1.06
42 to 42.9 gravity	1.08
43 to 43.9 gravity	1.10
44 and above	1.12
(Humble Oil & Refining Company)	
Crane, Upton, Crockett and Pecos counties, all grades	.60
WEST TEXAS	
(Humble, Gulf, Magnolia, Kay County Gas Company and Southern Crude Oil Purchasing Company)*	
Crane, Crockett, Pecos, Upton and Winkler, Counties	.60
*Kay County Gas Company does not buy in Winkler and Pecos Counties, and Southern does not buy in Pecos or Crockett.	
(Magnolia Petroleum Company)	
Mitchell County	$ .93
Howard-Glasscock County (shallow)	.80
Howard-Glasscock County (deep)	.60
Col-Tex Refining Company	
Howard and Mitchell Counties	$ .80
WYOMING-MONTANA	
Wyoming	
Byron	1.33
Ferris	1.60
Elk Basin	1.33
Grass Creek	1.33
Rock Creek	1.25
Lost Soldier	.95
Lance Creek	1.33
Mule Creek	1.10
Notches	.65
Big Muddy	1.25
Osage	1.33
Hamilton Dome	.85
Pilot Butte	1.75
Torchlight-Greybull	1.33
Lander	.80
Simpson Ridge	.80
Rex Lake	1.10
South Casper Creek-Poison Spider	1.00
Salt Creek	
Midwest Refining Company	
29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.9 gravity	1.20
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 and above	1.30
MONTANA	
Sunburst	1.50
Cat Creek	1.33
Lake Basin	2.20
NEW MEXICO	
Artesia	1.00
Hogback	1.38

	Feb. 8 1928
CANADA	
Oil Springs	2.18
Petrolia	2.11
LOUISIANA-ARKANSAS	
(Standard of Louisiana, Louisiana Oil Refining Company, Gulf Refining Company of Louisiana and The Texas Co.) Homer, Haynesville, Caddo, El Dorado, De Soto and Chrichton.	
Below 28 gravity	1.10
28 to 28.9 gravity	1.12
29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.9 gravity	1.20
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 to 37.9 gravity	1.30
38 to 38.9 gravity	1.32
39 to 39.9 gravity	1.34
40 to 40.9 gravity	1.36
41 to 41.9 gravity	1.38
42 to 42.9 gravity	1.40
43 to 43.9 gravity	1.42
44 to 44.9 gravity	1.44
45 to 45.9 gravity	1.46
46 to 46.9 gravity	1.48
47 to 47.9 gravity	1.50
48 to 48.9 gravity	1.52
49 to 49.9 gravity	1.54
50 to 50.9 gravity	1.56

	Feb. 1 1928
51 to 51.9 gravity	1.58
52 and above	1.60
Atlantic Oil Producing Company posts this same schedule on Homer, Haynesville, and West El Dorado.	
Magnolia Petroleum Company has the same posting on Pine Island, Haynesville, Eldorado and Bull Bayou.	
STEPHENS	
(All Companies)	
Below 28	1.00
28 to 28.9 gravity	1.04
29 to 29.9 gravity	1.04
30 to 30.9 gravity	1.06
31 to 31.9 gravity	1.08
32 and above	1.10
SMACKOVER	
(Louisiana Oil and Refining Corporation)	
Below 24 gravity	.75
24 and above	.90
(Other Companies)	
Below 24 gravity	.85
24 and above	1.00
Bellevue	1.25
Jennings	1.15
Vinton	1.30
Edgerly	1.30
Starks Dome	1.30
Urania	.75
Cotton Valley	.85
Calion	.85

IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

American Petroleum Institute Figures (Barrels of 42 gallons)

	January 28	Janaury 21
AT ATLANTIC COAST PORTS—		
Baltimore	65,000	115,000
Boston	.....	.....
New York	663,000	* 667,000
Philadelphia	172,000	145,000
Others	388,000	250,000
Total	1,288,000	1,177,000
Daily Average	184,000	168,143
AT GULF COAST PORTS—		
Galveston District	65,000	50,000
New Orleans and Baton Rouge	303,000	144,000
Port Arthur and Sabine District	.....	.....
Tampa	.....	.....
Total	368,000	194,000
Daily Average	52,571	27,714
AT ALL UNITED STATES PORTS—		
Total	1,656,000	1,371,000
Daily Average	236,571	195,857
Daily Average Four Weeks Ended	225,464	196,214

RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS

American Petroleum Institute Figures (Barrels of 42 gallons)

	January 28	Janaury 21
AT ATLANTIC COAST PORTS—		
Baltimore	75,000	195,000
Boston	.....	94,000
New York	90,000	484,000
Philadelphia	156,000	.....
Others	64,000	75,000
Total	385,000	848,000
Daily Average	55,000	121,143
AT GULF COAST PORTS—		
Daily Average	.....	.....
TOTAL ATLANTIC AND GULF COAST PORTS	385,000	848,000
Daily Average	55,000	121,143
Daily Average Four Weeks ended	69,821	76,107
DISTRIBUTION OF CALIFORNIA RECEIPTS IS AS FOLLOWS:		
Crude	90,000	333,000
Gasoline	231,000	196,000
Gas Oil	64,000	244,000
Kerosene Distillate	.....	75,000
Total	385,000	848,000

*Revised.

COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

OKLAHOMA

Company, Well and Location	Initial Production Bbls.	Depth
COAL COUNTY—		
I. T. I. O. Co., Burris 1A, c ne nw 10-1n-11	*	1355
CREEK COUNTY—		
Mid-Continent Pet. Corp., Harjo 1A, sw c ne ne, 18-14-10e	¶1	433
Empire O. & R. Co., B. Lee 1, se c nw nw, 36-15-7e	50	2585
Roxana, Clark 2, ne c se nw, 18-19-9e	¶1	2356
Burlingame & Sharp, Miller 14, c sw nw, 13-19-8e	25	2407
J. B. Grieves Oil Co., Porter 4, sw c nw se, 12-19-8e	25	2509
Edgwood Oil Co. et al, Peters 2, nw c sw nw 17-14-10e	*	3495
Texas Pacific Coal & Oil Co., Dahlke 1, nw c, 5-16-5e	*	4330
Irelan et al, Thomas 1, sw c se nw, 13-17-10e	*	2917
GRADY COUNTY—		
H. A. Milleur 1A, c e½ se se, 23-4n-8w	¶3	2375
Watchorn O. & G. Co., Dennett 1, se sw sw, 12-4n-8w	¶40	2250
Bedner et al, Kemp 1, c sw ne, 13-7-5w	*	2450
GRANT COUNTY—		
Roxana, Washoma Oil Co., School Land 1, nw c sw, 36-28-3w	¶6	4203
JEFFERSON COUNTY—		
Heydrick & Hivick, se c sw se nw, 17-7s-5w	*	1620
KAY COUNTY—		
Ivan Otstot et al, Lewis 1, c nw 1-27-1w	¶1	882
Dewey & Hoeffer, School Land 2, sw c se nw, 36-28-1w	¶2	675
Tidal Oil Co., Cole 1, c n l ne se, 18-29-1e	¶21	1465
Marland, Dickerson 2, nw ne se, 17-29-1e	70	3414
H A G Oil Co., Vickery 2, nw c se se nw, 28-27-1e	*	....
Greer, Walters et al, Naylor 2, sw c ne, 31-28-1e	*	895
Geo. Dickey, Warren 1, ne c, 39-28-1w	*	3714
LINCOLN COUNTY—		
I. T. I. O. Co., Lindsey 2, ne c, 6-16-5e	500	4312
MUSKOGEE COUNTY—		
J. W. Hale et al, Timberlake 2, nw c ne sw se, 6-14-19e	15	545
OKFUSKEE COUNTY—		
Riverside Oil Co., Holmes 2, se c nw nw, 30-11-11e	250	3663
Minnehoma Oil Co., Holmes 2, sw c ne nw, 30-11-11e	25	3668
Champlin Ref. Co., Washington 4, ne se, 15-11-11e	125	2692
Transcontinental, Knight 1, nw ne nw, 34-12-8e	*	4452
OKMULGEE COUNTY—		
W. B. Pine, Byrd 4, c e l w½ e½ se, 27-14-13e	¶2	1959
E. P. Jones et al, Jones 2, 14-14-13e	10	1080
Kirkland & Son, A. Ball 7, c e l se nw, 17-15-13e	10	1413
Devonian Oil Co., Jones 1, se c nw, 6-15-13e	¶18	2100
J. T. Young & Garrett, Sizemore 1A, se c sw sw, 20-14-11e	*	2496
F. A. Roberts, Rentie 4, c s l se nw 18-14-15e	*	1251
F. D. Misener, Adams 2A, sw c ne 11-15-14e	*	1930
OSAGE COUNTY—		
A. D. McDonnell, 1, sw c se se sw, 6-21-9e	3	1265
Kewanee O. & G. Co., 6, nw se ne, 3-26-6e	885	2846
5, ne se ne, 3-26-6e	565	2809
Okla. Nat. Gas Co., 779, sw c ne, 33-21-12e	*	1618
Duffield, Howard et al, 1, nw c ne, 27-21-12e	*	1550
Geo. Parker, 5, se c nw, 11-26-6e	*	2928
Phillips Pet. Co., 1, sw c ne, 11-26-6e	*	2901
Beacon Oil Co., 1, sw c ne, 3-28-8e.	*	2400
PAWNEE COUNTY—		
Wallace et al, Green 1, nw c sw, 29-20-9e	6	1115

SUMMARIZED REVIEW OF FIELD RESULTS

State—	Completions This Week	Completions Last Week	Producers This Week	Producers Last Week	Gas Wells This Week	Gas Wells Last Week	Failures This Week	Failures Last Week	Initial Production This Week	Initial Production Last Week
Arkansas	3	7	2	2	..	1	1	4	1,025	440
California	20	17	16	14	..	..	4	3	3,645	5,605
Illinois	2	3	2	..	..	..	..	3	41	...
Indiana	12	1	10	..	..	..	2	1	355	...
Kansas	25	19	14	4	2	..	9	15	4,815	335
Kentucky	16	11	9	6	1	..	6	5	298	430
Louisiana	11	11	3	3	2	2	6	6	6,075	320
Ohio	26	16	16	8	5	7	5	1	595	395
Oklahoma	76	54	34	14	12	12	30	28	7,815	6,650
Pennsylvania	4	19	1	17	3	2	..	..	4	34
Texas	77	121	43	67	1	10	33	44	12,127	81,532
West Virginia	35	38	7	8	23	17	5	13	157	69
Totals	307	317	157	143	49	51	101	123	36,952	95,810
Increase this week	..	..	14	..	..	..	..	..	...	...
Decrease this week	10	..	..	..	2	..	22	..	58,858	...

NOTE—Following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million cubic feet of gas; abn—abandoned; bbls—barrels; b. s.—basic sediment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in—inches; loc—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on standard rig.

Company, Well and Location	Initial Production Bbls.	Depth
PAYNE COUNTY—		
Wood Oil Co., Eagle 1, se c sw, 33-19-5e	30	3626
PONTOTOC COUNTY—		
Henry et al, Johnson 1, ne c sw, 14-4n-7e	*	1163
W. R. Ramsey, Harjo 1, ne nw nw, 29-5n-8e	*	2780
La. Ref. Co., Perry 6, se sw nw, 20-5n-8e	¶20	2737
POTTAWATOMIE COUNTY—		
Magnolia, Wilson 1, se sw se, 13-7-3e	*	4585
School Land 1, nw c se, 36-7-3e	35	3920
Barnsdall, Gibson 7, nw sw ne, 9-9-5	35	4437
SEMINOLE COUNTY—		
Pure, Strothers 3 "F", ne se nw, 10-8-6	845	4250
Tidal Oil Co., Harjoche 7, ne nw sw, 10-8-6	425	4123
I. T. I. O. Co., Fay 9, se c nw, 13-8-6	110	4379
The Texas Co., Reed 12, se nw ne, 14-8-6	300	4190
Carter, Walker 4, sw c se, 15-8-6	70	4820
Hilly 3, se ne se, 23-8-6	550	4229
Magnolia, Pattey 1, sw se ne, 35-8-6	560	4416
Phillips & W. B. Pine, Pattey 3, se sw ne, 35-8-6	600	4261
Carter, Fish 4, se sw nw, 36-8-6	525	4337
Shaffer, Marcome 1, sw c ne, 36-8-6	150	4729
Roxana, Strothers 2, sw c ne, 3-9-6	710	4352
Barnsdall, Davis 4, ne sw nw, 11-9-5	180	4422
Magnolia, Gosey 1, nw ne se, 1-7-6	*	4426
Carter, Burden 3, nw c se, 23-8-6	*	4871
Indep. O. & G. Co., Sewell 2, nw se sw, 15-8-8	*	3915
STEPHENS COUNTY—		
Magnolia, Martin 2, ne nw ne, 13-1s-4w	100	2890
Martin 1, se sw ne, 13-1s-4w	¶70	2976
Geo. Pace et al, Fobb "D" 2, sw c nw se, 12-2s-8w	10	1542
Magnolia, Anna Morgan 2, ne c, 32-1n-8w	*	2640
McAlester et al, Cummings 2, se c sw sw nw, 27-1s-8w	6	2204
TULSA COUNTY—		
Savoy Oil Co., Agent 1, se c nw ne, 8-16-14e	*	1944
C. T. Dresser, Franklin 1, sw c se, 16-19-14e	*	1785
Glidden Oil Corp., Combs 1, sw c nw sc nw, 23-19-11e	*	2295
Holmes et al, Ragen 1, nw c ne se, se, 24-19-10e	*	2627
Sheridan Oil Co., Russell 2, ne c sw ne, 27-19-11e	10	1610
WAGONER COUNTY—		
J. Striker, E. Prince 2, ne c sw sw, 29-18-16e	*	1000

KANSAS

Company, Well and Location	Initial Production Bbls.	Depth
BARTON COUNTY—		
Huffine et al, Smith 1, nec se ne, 17-19-11e	*	5090
BUTLER COUNTY—		
Dixie Oil Co., Albers 1, sec sw se, 21-25-4e	40	2601
Rosenthal et al, Shaffer 8, nec se se, 4-27-6e	250	3161
Madison et al, Clubine 1, sec nw nw, 21-28-5e	*	3205
COWLEY COUNTY—		
Trees Oil Co., Hittle 1, swc se ne, 21-31-4e	195	2394
Roxana, Nave 1, sec 20-30-3e	*	1858
Barnsdall, Patterson 1, sec nw, 7-33-3e	*	3611
ELK COUNTY—		
Union Gas Corp., Webb 22, c nw ne, 14-31-10e	¶1	1133
GREENWOOD COUNTY—		
Bisagno et al, Steckle 1, nec nw se, 36-24-12e	15	1738
Empire O. & R. Co., Haggart 1, nwc sw nw, 9-25-13e	35	1500
Bisagno et al, Roglin 2, nwc se sw, 10-25-13e	15	1474
Eureka Oil Co., Brothers 1, sec nw, 35-23-11e	*	1975
Golden et al, Knox 1, nec nw, 8-23-13e	*	1830
Empire O. & R. Co., Schwab 10, nwc se ne, 25-22-12e	*	....
MORRIS COUNTY—		
Moss & Nelson, Smith 1, swc, 10-16-5e	*	....
RUSSELL COUNTY—		
Mid-West Ref. Co., Mermis 3, nwc ne ne, 5-14-15w	120	3105
SUMNER COUNTY—		
Marland, Bailey 1, nec, 27-32-2e	*	....
De Frost Drlg. Co., Bryan 1, swc, 25-30-2w	¶1	1985
Washahoma Oil Co. et al, Jenkins 2, nec se, 26-31-2e	50	1913
La Robb Oil Co., Buffington 2, Midland Valley Right-of-Way, City of Oxford, 14-32-2e	525	2112
Derby Oil Co., Burkett 2, blk 87, City of Oxford, 14-32-2e	170	2112
Roxana, Emerich 5, swc nw se, 14-32-2e	1000	2095
Nevitt 3, tract 3, City of Oxford, 14-32-2e	300	2101
Scroggins 1, tract 5, City of Oxford, 14-32-2e	600	2105
Wasson et al, Gassoway 2, sec sw, 14-32-2e	1500	2127

CALIFORNIA.

Company, Well and Location	Initial Production Bbls.	Depth
ATHENS-ROSECRANS—		
Union Oil Co., 2, wo	100	4940
CAT CANYON—		
R. & G. Oil Co., 7, 30-9-32	300	3330
DOMINGUEZ—		
Union Oil Co., Callender 21	150	4210
HUNTINGTON BEACH—		
Standard, P. E. 13, wo	60	4355
H. & P. Oil Co., Y. & L. 2	400	3960
KERN FRONT—		
Pet. Securities Co., Robinson A-9	150	2550
Chanslor-Canfield Midway Oil Co., 14, 23-28-27	175	2200
Standard, 19, 15-28-27	125	2600
General Pet. Corp., Wetmore 12, 14-28-27	150	2025
LONG BEACH—		
Pan-American Pet. Co., Anderson 2	550	6200
MONTEBELLO—		
Standard, Baldwin 7	50	3550
RICHFIELD—		
Union Oil Co., Stern 11	100	4325
Y. L. W. 17	175	3130
Y. L. W. 12, wo	210	4515
SEAL BEACH—		
Richfield Oil Co., Bonner 1	650	6458

EASTERN STATES

PENNSYLVANIA

GREENE COUNTY—		
W. R. Taggm, Dukate 2	4	....
H. D. Freeland, Yeager 1	¶1½	....
Philadelphia Co., Ammons 1	¶2	....
Boundy Bros., Cooper 1	¶2	....

WEST VIRGINIA

CALHOUN COUNTY—		
G. L. Cabot, Craddock 1	*	....
Hope Const. & Ref. Co., Slider 1	¶1½	....
York 1	¶¼	....
Calhoun O. & G. Co., Smith 1	25	....
W. H. Bickel, Wolverton 1	*	....
CABELL COUNTY—		
West Va. Gas Corp., Morrison 1	¶1¼	....
Zogg O. & G. Co., Clark 1	¶1½	....
Harshberger O. & G. Co., Conner 1	¶1½	....
Shipe & Co., Williamson 1	¶¾	....
BOONE COUNTY—		
Columbia Carbon Co., Brown 3	¶2	....
Boone O. & G. Co., Mooney 2	¶2	....
Pure Oil Co., Nelson Land & Coal Co. 4	¶½	....
Ferrell 1	¶1½	....
HARRISON COUNTY—		
Conservative Gas Co., Goodwin 1	¶2	....
Furno Oil Co., Furno 1	¶2	....
C. M. Lyons & Co., Goodwin 1	¶2	....
Clarksburg Light & Heat Co., Gore 257	¶2	....
LEWIS COUNTY—		
South Penn Oil Co., Summers 6	*	....
Carnegie Nat. Gas Co., Unknown 1	¶2	4020
Hope Nat. Gas Co., Starcher 1	1	....
ROANE COUNTY—		
Buffalo O. & G. Co., Taylor Hrs 4	¶1½	....
Cromwell O. & G. Co., Allen 1	¶2	....
United Fuel Gas Co., Taylor 1	¶1¾	....
GILMER COUNTY—		
Hope Nat. Gas Co., Wilt 1	100	....
South Penn Oil Co., Bowie 1	*	....
WIRT COUNTY—		
Roberts Bros., Rathbone 37	2	....
Pauley & Co., Clowser 1	¶¼	....
KANAWHA COUNTY—		
United Carbon Co., Osborne 13	¶1¼	....
United Fuel Gas Co., Updegraft 1	¶2	....
CLAY COUNTY—		
Virginian Gaso. & Oil Co., Brown, Swan & Co. 16	25	....
WOOD COUNTY—		
Smith & Goldish, Goldish & Co. 5	2	....
DODDRIDGE COUNTY—		
Elkhorn O. & G. Co., Chipps 1	2	....
LINCOLN COUNTY—		
Pridemore & Adkins, Stone 1	¶½	....
WETZEL COUNTY—		
Wetzel Gas Co., Kimble 1	¶2	....
MARSHALL COUNTY—		
Pittsburgh & W. Va. Gas Co., Lemley 2	*	....

KENTUCKY

OHIO COUNTY—		
James C. Ellis, Daniels 1	150	....
Wood Oil Co., Elmore 23	100	....
S. H. Russell & Co., Kelly 4	7	435
Ohio Oil Co., Rhodes 1	*	....
Wah Shah She Oil Co., Powers 4	*	....
White Plains O. & G. Co., Dodson 1	*	785
JOHNSON-MACGOFFIN COUNTIES—		
Hupp, Duff & Co., Bailey 1	5	....
Hamlin, Tanner & Co., Tackett 3	5	....
S. J. Patrick & Co., May 3	4	....
ESTILL COUNTY—		
Superior Oil Corp., Miller 7	*	....
Wood Oil Co., Henry 5	5	....
DAVIESS COUNTY—		
Emmert & Co., Higdon 2	*	....
WARREN COUNTY—		
Orrin Wood, Vanmeter 1	*	1040
BRECKENRIDGE COUNTY—		
Flem Douthitt & Co., McGavock 1	20	550
FLOYD COUNTY—		
United Carbon Black Co., Gearhart 3	¶2	....
WAYNE COUNTY—		
Kentucky-Indiana Oil Co., Ramsey 14	2	....

SOUTHEASTERN OHIO

NOBLE COUNTY—		
O. E. Marquis, Steen Hrs. 5	4	....
BELMONT COUNTY—		
Moore & Co., Carpenter 2	3	....
MORGAN COUNTY—		
Lisbon O. & G. Co., Wallace 1	*	....
WASHINGTON COUNTY—		
W. T. Warren & Co., McBride 2	4	....
J. O. Harlin & Co., McKintrick 1	3	....
I. W. Atkinson, Atkinson 1	2	....
Atkinson 2	5	....

CENTRAL OHIO

PERRY COUNTY—		
William Cline & Co., King 1	185	....
Snyder Oil Co., Snyder 1	80	....
Northwestern Oil Co., Fee 1	9	....
Pure Oil Co., Tague Est. 3	5	....
LICKING COUNTY—		
E. J. Edmonds Oil Co., Ailliams 5	25	....
Bell Bros., Pugh 1	*	460
Preston Oil Co., Miller 1	5	....
COSHOCTON COUNTY—		
Preston Oil Co., Wilson 1	150	....
Empire G. & F. Co., Snow 1	*	....
MUSKINGUM COUNTY—		
M. F. Whitehill, Francis Hrs. 2	100	....
FAIRFIELD COUNTY—		
B. F. Whitehill, Groves 1	10	....
HOCKING COUNTY—		
Clark Oil Co., Clark Hrs. 1	5	....
LORAIN COUNTY—		
Ohio Fuel Gas Co., Burk 1	¶¼	....
HOLMES COUNTY—		
The Kemrow Co., Allison 1	¶1	....
GALLIA COUNTY—		
Gordon Oil Co., Reynolds 1	¶½	....
CUYAHOGA COUNTY—		
John Arthur, Renton 1	¶1	....
ASHLAND COUNTY—		
Ringler & Co., Farquahausen 1	*	....
WAYNE COUNTY—		
M. C. & G. K. Rogers, Hartzel 1	*	....

NORTHWESTERN OHIO

OTTAWA COUNTY—		
Catawba O. & G. Co., Caigney 1	¶	....

INDIANA

VIGO COUNTY—		
Sioso Oil Corp., Riggs No. 1, tr 6	60	2100
Riggs No. 1, tr 9	30	....
Riggs No. 1, tr 10	30	....
Riggs No. 2, tr 2	30	....
Riggs No. 2, tr 3	30	....
SULLIVAN COUNTY—		
Siosi Oil Corp., Thomas 5	25	2150
Thomas 6	40	....
Baldridge & Co., Scott 1	60	....
Bays & Co., Mayfield 1	40	....
GIBSON COUNTY—		
Wm. Bell & Co., Zimmerman 2	10	1313
Bell Bros., Riley 2	*	1118
JAY COUNTY—		
George Northrup, Wabash Bank Land 1	*	....

ILLINOIS

WABASH COUNTY—		
G. W. Miller & Co., Price 1	30	1615
Mahutska Oil Co., Madden 8	11	1146

ARKANSAS

UNION COUNTY—		
E. M. Jones, Crain 2, 2-17-14	1000	3012
Ohio Oil Co., Crain 6, 1-17-14	25	3031

LOUISIANA

CADDO PARISH—		
Gulf, Tyson 14, 14-21-15	75	3975
OUACHITA PARISH—		
Palmer Corp., W. Va. 3, 5-18-4e	¶3	2192
RICHLAND PARISH—		
Stovall Drlg. Co., Dunning 1, 26-16-6e	¶25	2450

SOUTH LOUISIANA

EVANGELINE—		
The Texas Co., Rayne 2	*	4600

TEXAS

TEXAS GULF COAST

BATSON—		
Hill & Dowell, Milholme 95	8	1010
Deutser Oil Co., Colorado & Batson Synd. 3	*	1150
BLUE RIDGE—		
Gordon, Folwell & Dickson, Blakely 3	200	2875
H. R. Cullen, Blakely 1	540	3900
HIGH ISLAND—		
McLean Oil Co., Cade 11	50	3400
HULL—		
W. B. Flynn, Ray 1	30	2075
ORANGE—		
Gulf, Hager & Moore 7	125	3350
PIERCE JUNCTION—		
Gulf, Perry 1	246	5400
Rio Bravo, Settegast 1	240	4175

EAST TEXAS

PANOLA COUNTY—		
Magnolia, Trosper 1, J. Shandoin sur.	15	2416

CENTRAL WEST TEXAS

BROWN COUNTY—		
Aldridge et al, Woods 1	*	660
Coats & Wall, Murphy 1	*	1735
Cranfill-Reynolds, T. E. Hill 1	*	1306
Whitehead 1	*	712
Newton 1	75	1154
Forest Oil Corp., Moran 1	*	1142
Pandem Oil Corp., Curry 2-B	330	1122
Phillips Pet. Co., Newsome 10	125	1307
Syndicate Oil Co., Curry 1	190	1124
CALLAHAN COUNTY—		
Mook-Texas Oil Co., E. E. Baum 4	5	1749
Young & Alexander, Wheeler 1	*	1208
COLEMAN COUNTY—		
Dallas Pet. Co., Babbington 1	15	1066
Miss McChesney et al, Story 1	*	1519
EASTLAND COUNTY—		
Chestnut-Smith Corp., Kurklin 1	†	1183
Kuedell et al, Collins 1	*	1450
Hood et al, Watson 3	¶5-25	3760
Rattlesnake Oil Co., Marshall 1	*	3740
SHACKELFORD COUNTY—		
Harris et al, McLemore 2	*	751
Roeser-Pendleton & Marland Oil Co. Cook 36-A, (Sec. 60)	240	1316
Cook 37-A	145	1329
Cook 41-A	350	1258
STEPHENS COUNTY—		
Hickok Prod. Co., Hamil 1	¶1-210	4057
Phillips Pet. Co., Post 2	*	2270

TEXAS PANHANDLE

GRAY COUNTY—		
Danciger O&R Co. et al, Jackson 8	1100	3072
The Texas Co., G. H. Saunders 4	885	2758
HUTCHINSON COUNTY—		
Deahl et al, Johnson 1	175	2875
Timms et al, Garner 1	115	3115

NORTH TEXAS

ARCHER COUNTY—		
Bowers et al, Herron 1	*	903
Continental-Perkins & Cullum, Wilson 8	*	1535
Grisham & Panhandle Ref. Co., Farmer 3	15	1547
The Texas Co., Garvey 1-C	*	1203
BURKBURNETT—		
Magnolia Pet. Co., Hugh Reilly 137	1	1596
COOKE COUNTY—		
Murchison Oil Co., Mitchell 1	*	1873
ELECTRA—		
J. E. Dunnaway et al, Baker-Yarborough 1	*	497
C. H. Lebow et al, A. J. Schulz 11	30	1567
The Texas Co., Waggoner 341	*	2251
Waggoner 342	100	1980
JACK COUNTY—		
P. K. French et al, Davis 1	*	645
Rochelle et al, Gray 1	*	3670
Williams et al, Carpenter 1	*	460
K-M-A AND IOWA PARK—		
Archer Oil Co., K&K 1	*	1881
Atlantic & Burr Lambert, Barton 1		
Coleman & Coppock, K. & K. 3	50	858

(Continued on page 80)

WILDCATS FROM ALL SECTIONS

MOUNTAIN STATES

MONTANA

BIG HORN—Selig Oil Co.'s 1, se 21-6s-35, td 700 ft.

CARBON—Ohio Oil Co.'s Northern Pacific 1, 11-7s-21e, dr 3565 ft. Atlantic Oil Co.'s 3, 20-7s-24e, csg cemt at 948 ft.

CASCADE—Lone Star's McLean 1, 12-21n-3e, sd 100 ft.

CHOTEAU—Geralding O&G Co., sw ne 1-21-11e, rigged.

FERGUS—Melton Corp.'s Fenholt 1, 24-21-17, td 3000 ft. Mineral Research Oil Co.'s 1, 13-17-23, bottomed at 843 ft.

FLATHEAD—Flathead Pet. Co.'s Reservation 1, se 35-23-22w, rig.

GARFIELD—Carroll Bros., nw ne 6-14n-31e, standing cemented and capped at 1440 ft, will be swabbed as soon as roads are passable.

GLACIER—Rimrock Oil Co., 29-35-5w, rig.

HILL—A. H. McFarland, sw 15-30-13e, sd 100 ft. Gad-Hamilton et al's Goldstone 1, sw 25-35-9e, rig. Equitable Oil Co.'s Perkins 1, 34-33-12e, waiting csg at 3350 ft.

LIBERTY—Chester Oils Inc.'s Laird 1, 31-37n-6e, dr at 2325 ft. Sunburst O&R Co.'s Disotell 1, 10-37n-5e, gas in Ellis at 2878 ft, oil in Kootenai at 2686 ft, dr 2880 ft.

MADISON—Madison County Oil Co.'s 1, ne 17-7s-1w, sd 1700 ft.

MUSSELSHELL—Manhattan Oil Co., ne 24-7-24e, sd 60 ft. McElwain Oil Dev. Assn., 2-11-22, rig.

RICHLAND—Community Drill. Co.'s Pioneer 1, rigging to drill deeper from 2600 ft.

ROOSEVELT—Pioneer O&G Co.'s 1, se 35-27-51w, sd 1590 ft.

PONDERA—S. C. Ferdig et al, 8-27-4w, rig. Continental Dev. Co., sw 19-27-3w, dr below 1500 ft.

SWEETGRASS—Shoshone Consolidated, nw 23-2n-15w, dr 1400 ft.

TETON—Drilling et al, ne 9-25-1e, fsh 1408 ft. Continental Dev. Co.'s Ritmoure 1, 8-27-5w, dr 1100 ft. Craig-Speer-McCutcheon, 9-23-2w, dr 100 ft.

TOOLE—Kevin-Flathead Oil Co.'s 1, ne 27-36n-2e, sd 2200 ft. Zenith-McDonald's Lowey 1, 35-36n-1w, dr 2155 ft. Sunburst O&R Co.'s Grandview 1, 10-34n-32, rig. Madeline Oil Co.'s Swenson 1, 33-35-4w, dr at 600 ft.

WYOMING

BIG HORN—Agate Oil Co., ne 13-51-92, plugged back and cemented at 842 ft. Utah-Southern Oil Co.'s 3, 29-56n-97w, dr below 2530 ft. Wisconsin-Himes, 9-54-94w, delayed by title trouble.

CARBON—Graybeal Synd., 16-28-91, sd 4380. ft. Pacific-American, 31-51-91, lcn.

CONVERSE—A. E. Tylee, ne 8-32-72, sd. Criterian Oil Co.'s Irvine 1, 5-31-70, attempting water shut off. John Ackard's McKinley 1, 21-31-69, sd 3000 ft.

FREMONT—Producers & Refiners' Muskrat 1, 34-34-92, dr 3000 ft. Texas Production Co.'s Alkali Butte 1, 1-33-92, dr 1705 ft, carrying 10-in. Zola Oil Co.'s Crook's Gap 1, 25-27-93w, sd 3750 ft. Iowa-Wyoming Inv. Co., 30-1s-2e, bottomed at 1500 ft.

JOHNSON—Fairway Oil Co.'s Crazy Woman 1, 7-47-82, showing oil and gas at 2095 ft. Tarrant Synd.'s 2, 17-46n-82w, sd 3625 ft. Murphy & Grove, 10-41n-80w, will abn.

LINCOLN—Fontenelle Oil Co.'s 1, ne ne 1-24n-113w, no report. California Co.'s Snyder Basin 1, 11-29n-115w, td 1117 ft.

NATRONA—North Casper Creek O&G Co., se 1-36-82, no report. Combs Inc. Co., 12-39-78, dr.

NIOBRARA—Penn-West. Pet. Co., 13-35n-62w, bottomed 800 ft. Hollingsworth Bros., 17-39-79, fsh.

PARK—Union of Calif.'s Taylor 1, 22-47-101, dr 3564 ft. Fred G. Ostland's Hoodoo Ranch 1, 25-51-101, sd 1740 ft. Honolulu Oil Corp.'s Four Bear 1, 29-48-103, sidetracking csg at 2848 ft. Ralph Arnold & Chas. Mau, ne 25-58n-98w, delayed. Ydoc Oil Co., ne 6-51n-101w, fsh 915 ft. Honolulu Oil Corp.'s Pitchfork 1, 14-48n-102w, lcn. Hoodoo Oil Co., 36-51-101, crooked hole at 465 ft.

NOTE—Following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn—abandoned; bbls—barrels; b.s.—basic sediment; cas-casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on standard rig.

PLATTE—Walter Adams Tr., 13-25-66, dr.

SWEETWATER—Boar's Tusk Oil Co., 16-23-104, fsh at 1500 ft. Prairie O&G Co.'s Tucker 1, 18-13-99, sd 150 ft. P. & R.-Marland of Colo., 26-20-104, sd 485 ft. Tower Pet. Co.'s 1, 6-14n-103w, dr 600 ft.

WASHAKIE—Unnamed persons, ne 15-44-64, dr suspended for the winter at 600 ft. Gose Synd.'s 1, ne 28-47n-65w, attempting to pull 4¾-in csg at 4850 ft.

UINTA—Uinta Oil & Dev. Co., 21-51n-120w, dr below 1317 ft. Evanston O&G Co., 27-15-120, diamond dr below 540 ft. California Co.'s 1, 12-17-116, moving in material.

ALBANY—Union of California, 33-17-75, rig.

EAST TEXAS

CASS COUNTY—
The Texas Co., Pruitt 1, W. G. Lissenbee sur ..... * 1586

ANDERSON COUNTY—Brooks et al's Henby 1, Joseph Mertz sur, dk. Humble's Spencer Clemens 3, Sessions sur, sd 4215 ft; Lizzie Smith 1, Dan Roberts sur, wosr 3732 ft.

CASS COUNTY—Hickman et al's Mott 1, A. Douthit sur (formerly The Texas Co.), set 10-in at 100 ft.

CAMP COUNTY—J. C. Rogers' Boyd 1, R. M. Montgomery sur, sd 750 ft.

CHEROKEE COUNTY—Panhandle Oil Co.'s Whalen 1, J. Jordan sur, sd 1300 ft. Joe Walter et al's Barns & DeLoach 1, Perry Reese sur, sd 976 ft.

FREESTONE COUNTY—Roxana Pet. Co.'s Marshall 1, D. E. Marshall sur, sd 777 ft.

HENDERSON COUNTY—W. K. Cayton et al's Hoffer & Nash 1, H. Jefferson sur, sd 2910 ft.

HARRISON COUNTY—Cox et al's Furrh 1, J. Short sur, set 6-in at 997 ft. Doney et al's Furrh 2, J. Short sur, dk. D. M. Lide et al's Abercrombie 1, R. W. Bedford sur, set 10-in at 105 ft. C. H. Lyons' Furrh 2, R. W. Bedford sur, dk. Magnolia Pet. Co.'s Vincent 1, R. W. Bedford sur, r 1911 ft. Mitchell et al's Jones 1, J. Lipscomb sur, wosr 957 ft. State Line O&G Co.'s Waterman 6, J. Short sur, dr 2543 ft; Mrs. Z. Abney 4, J. Short sur, set 10-in at 80 ft. Tylong O&G Co.'s Armstrong 1, S. Holloway sur, set 10-in at 80 ft.

KAUFMAN COUNTY—Cranfield et al's Nicholson 1, A. Bennett sur, sd 3250 ft.

MARION COUNTY—Lumbermans Oil Co.'s Bonham 1, R. Potter sur, sd 1200 ft.

NACOGDOCHES COUNTY—P. R. Harris et al's Griffin 1, J. W. Anderson sur, sd 1301 ft. Stein & Lewis' Birdwell 1, Jose A. Chirino sur, sd 1100 ft. Union Sulphur Co.'s Whitermark 1, Jose A. Chirino sur, sidetracking ds at 1800 ft, td 2812 ft.

PANOLA COUNTY—S. H. Gardner et al's Roquemore 1, B. C. Jordan sur, set 6-in at 2204 ft; Roquemore 3, same sur, set 10-in at 102 ft. H. Hines' Jones 1, G. Goodwin sur, dr 1950 ft. Magnolia's Fletcher 1, B. C. Jordan sur, sd 2835 ft; Sol Oden 1, E. F. Mitcheson sur, set 6⅝-in at 2301 ft; Tilberry 1, Jane Thorpe sur, set 13⅜-in at 146 ft; Leigh Trosper 1, B. Stephens sur, set 13⅜-in at 136 ft; Steele 14, B. C. Jordan sur, set 13⅜-in at 166 ft. D. Thomasson's Crenshaw 3, J. Womack sur, set 10-in at 101 ft. The Texas Co.'s Adams B-7, J. Hatcher sur, set 10-in at 38 ft.

RUSK COUNTY—C. M. Joiner et al's Bradford 1, J. Kimines sur, sidetracking junk 1095 ft. Magnolia Pet. Co.'s Durren 1, Agulla Norris sur, dk. McCurrie et al's Sparks 1, Jesse Coarse sur, sd 2148 ft. Rusk Dev. Co. et al's Matthews 1, D. Cortinas sur, sd 2330 ft.

Lbr. Co. 1, Wm. J. Crane sur, dr 3811 ft.

SHELBY COUNTY — Magnolia's Pickering William Sebastian's Pickering Lbr. Co. 1, T. F. Polly sur, waiting for csg 2923 ft.

SMITH COUNTY—Humble's Van Howenberg 1, Nancy Childs sur, dr 343 ft.

UPSHUR COUNTY — S. W. Richardson's Newsome 1, J. R. Davis sur, sd 2025 ft; Minor 1, A. Lowery sur, fsh 3500 ft.

LOUISIANA

Company, Well and Location		Initial Production Bbls.	Depth
BIENVILLE PARISH—			
La. Pet. Corp., Hayes 1, 18-16-5.....	*		2970
BOSSIER PARISH—			
O'Brien Bros., Farrington 1, 21-23-12	*		3097
CADDO PARISH—			
Dixie Oil Co., Hackaby 1, 33-22-15..	*		2460
DE SOTO PARISH—			
J. W. Downey, Dickson 1, 23-14-13..	*		2225

BIENVILLE PARISH—S. P. Borden's L. & A. 2, 11-17-8, set 12½-in at 194 ft. E. J. Forrest's Perritt 1, 11-17-6, dr 2980 ft. Lake Bistineau Gas Co.'s State 1, 18-16-10, sd 2531 ft.

BOSSIER PARISH—Atlantic Oil Prod. Co.'s Bain 1, 31-23-11, set 12½-in at 320 ft. Bahan & Bahan's Holmes 1, 36-23-12, dr 2820 ft. R. L. Crook's Larkin 9, 14-19-11, lcn. Davis et al's Simpson 5, 14-16-12, set 6-in at 1836 ft. Doern et al's Bollinger 1, 9-22-11, dr 3645 ft. Ellis & Markley's Hunter 5, 14-16-12, set 10-in at 68 ft. H. S. Goodwin Tr.'s Mercer 1, 21-16-12, set 4½-in at 1528 ft; Curtis 2, 26-17-13, set 10-in at 148 ft. Hamiter et al's Hamiter 1, 10-23-13, dr 1870 ft. Humble O&R Co.'s B. & W. 30, 15-19-11, dr 5000 ft. La. Oil Ref. Corp.'s Fee D-32, 15-19-11, arr to skid over. Magnolia's Caason 1, 1-22-12, rig. J. S. McCullough's Hodges 5, 25-16-12, wosr 1548 ft. Northwest La. Gas Co.'s Bain 1, 31-23-11, set 6-in at 3050 ft. Palmer Corp.'s Robertson 1, 26-23-12, set 8⅝-in at 1047 ft. R. O. Roy's Werner 1, 7-17-11, dk. The Texas Co.'s Peyton 1, 30-23-11, dr 2779 ft; Wilkerson 2, 36-23-12, set 12½-in at 363 ft. Sales & Walker's Kilgore 1, 31-23-11, set 12½-in at 202 ft. Walker et al's Antrim 1, 28-22-13, sd 2850 ft. Woodley & Collins L. & A. 3, 15-23-12, sd 3250 ft; Bain 1, 31-23-11, set 12½-in at 365 ft; Bollinger 1, 36-23-12, set 12-in at 380 ft.

CADDO PARISH—Ark. Nat. Gas Co.'s Alexander 1, 20-16-15, sd 3075 ft; Lane 1, 31-12-15, dr stem stuck 3675 ft. Bee Oil Co.'s Muslow 1, 29-20-15, sd 1125 ft. J. W. Barton Tr.'s Caldwell 8, 18-21-15, dk. Belchic & Laskey's Sharp 4, 10-18-14, set 10-in at 100 ft; Sharp 5, 10-18-16, lcn. W. D. Chew's State 6, 34-21-16, dk. Dixie Oil Co.'s Robertshaw 81, 13-21-15, dr out cemt 3772 ft; Robertshaw 90, 14-21-15, coring 4000 ft; Robertshaw 91, 14-21-15, dk; Robertshaw 92, 13-21-15, dr 3800 ft; Huckaby 4, 11-21-15, wosr 3890 ft. Greenwood Prod. Co.'s Cooper & Ellebre 1, 15-18-14, r 3138 ft. Haynes Bros.' Spell 1, 15-21-15, sd 3911 ft; Spell 2, 15-21-15, sd 3092 ft. Magnolia's Bell 2, 6-17-16, dk; Furrh 1, 28-18-16, dr 2420 ft; Dillon 18, 24-21-15, dk; Dillon 21, 23-21-15, lcn; Robertshaw 22, 23-21-15, r 3727 ft; Hampton A-8, 15-21-15, tested sw at 2779 ft. Ohio Oil Co.'s Smith 25, 12-21-15, plugged back to 4369 ft. Pittsburgh O&D Co.'s Herndon 1, 15-21-15, coring 4008 ft. Shreveport Oil Corp.'s Muslow 2, 32-21-15, lcn. Simplex Oil Co.'s Baird 2, 22-20-15, dr 50 ft; Thomas et al 3, 15-20-15, wosr 2355 ft; Thomas et al 4, 15-20-15, wosr 2208 ft. Standard's Berry 12, 11-20-16, rig; Stiles 190, 27-21-16, sd 1984 ft; Hart 17, 34-21-16, wosr 1843 ft; Hart 18, 34-21-16, set 6-in at 1799 ft. Superior Oil Co.'s Youree 8, 26-20-15, wosr 2318 ft. Standish Oil Co.'s Jolly 1, 23-22-15, arr to abn 1048 ft. The Texas Co.'s C. M. L. 47, 23-21-15, sd 3657 ft; Herndon 7, 14-21-15, dk; Herndon 8, 14-21-15, flowing sw at 3705 ft; Herndon 9, 14-21-15, dr 2793 ft; Raines 19, 15-21-15, fsh 4457 ft; Noel B-13, 14-21-15, sd 3815 ft. Tubbs et al's Hines 1, 16-14-16, dr 2512 ft.

CALDWELL PARISH—Grayson Oil Co.'s Crockett 1, 6-12-4, sd 2692 ft. .

CATAHOULA PARISH—Lochnager Oil Co.'s Beazley 3, 26-9-6e, set 12½-in at 120 ft. Standard Oil Co.'s Tensas 1, 23-8-5e, set 12½-in at 190 ft.

CLAIBORNE PARISH—El Dorado Chief Oil Co.'s Jones 1, 8-20-6w, rig. Magnolia Pet. Co.'s Lee 1, 16-22-8, sd 5100 ft. Rudeseale et al's Muslow 1, 20-21-7, dr 2833 ft.

DE SOTO PARISH — American Controlled Oil Co.'s Lanier 2, 5-11-11, sd 2790 ft. J. H. Askew's Richardson 3, 25-13-11, set 6-in at 2499 ft. Benson Oil Co.'s Wolf 2, 3-10-13, sd 562 ft. Carlton Drlg. Co.'s Stevens 1, 12-11-16, dr 2000 ft. Dixie Oil Co.'s Jenkins 1, 9-12-11, 6028 ft. Foster et al's Johnson 1, 7-10-12, coring 3078 ft. Hazlett-Simmons' Neely 2, 1-14-12, dr 1250 ft. R. O. Roy's Lee 1, 33-14-13, dk; Whittaker 1, 4-13-13, rig; Tracy 1, 3-13-13, rig. Reliance Drlg. Co.'s Jones 1, 8-11-14, sd 3018 ft. Wingfield et al's Haygood 1, 18-10-12, sd 2400 ft.

FRANKLIN PARISH — Barbour Oil Co.'s Baker 1, 3-15-7e, sd 2884 ft. Pittsburg O&D Co.'s Moore 3, 12-11-6e, sd 2501 ft. La. Pet. Co.'s Tensas 1, 11-11-6e, sd 2503 ft.

GRANT PARISH—W. D. Ball et al's Elias & Williams 1, 10-7-4w (formerly Rue et al), arr to deepen 2104 ft; Calhoun 1, 4-7-4w, sd 2106 ft. Swope et al's Fee 3, 18-9-1e, sd 1607 ft; Fee 5, 18-9-1e, set 10-in at 101 ft.

LA SALLE PARISH—Elbert Pet. Co.'s Urania B-3, 7-10-2e, sd 700 ft. Wingfield et al's Gibson 2, 2-9-1e, sd 3073 ft.

MADISON PARISH—W. S. Smith's Yerger 1, 51-16-4e, arr to deepen 1700 ft.

MOREHOUSE PARISH — Chas. Bennett's Davis 1, 21-20-4e, dk. Consolidated Pet. Co.'s Perry 1, 14-20-4e, dr 2145 ft. C. E. Jordan's Southern Carbon Co. 1, 14-20-4e, arr to abn 350 ft. Moody & Seagraves' Wolfe 1, 13-20-4e, dr 2150 ft. The Texas Co.'s Meyer 1, 15-22-7e, dr 2030 ft. United Carbon Co.'s Atkins 1, 26-20-5e, dk.

NATCHITOCHES PARISH—Lawson & Pharris' Crowell & Spencer Lbr. Co. 1, 22-5-6w, dr 2215 ft.

OUACHITA PARISH — Coco Bend O&G Co.'s Cordell 1, 23-15-3e (formerly Culver et al), dr 1900 ft. J. M. Huber's Edwards 4, 1-18-4e, set 6-in at 2200 ft. Imperial O&G Co.'s Tubbs 4, 13-19-3e, set 6-in at 2218 ft. Jordan Drlg. Co.'s Slagle 1, 48-18-4e, dk;McGee 2, 10-18-4e, dr 50 ft. Moody & Seagraves' U. S. Government 1, 1-19-3e, set 12½-inch at 183 ft. Ouachita Nat. Gas Co.'s Smith 8, 37-20-4e, set 12½-in at 287 ft. Peerless Carbon Co.'s Moore 3, 49-20-4e, set 12-in at 192 ft. Palmer Corp.'s Control 2, 1-19-4e, set 12-in at 158 ft. Southern Carbon Co.'s Phillips 3, 8-19-4e, set 12½-in at 190 ft. United Carbon Co.'s Nelson Fee 2, 6-19-5e, hole junked 2105 ft, skidding over.

RAPIDES PARISH—Collins Bros.' Allen 1, 25-5-1w, sd 1410 ft. Minnesota Oil Corp.'s Wetty Mark 2, 13-5-4w, sd 12 ft.

RICHLAND PARISH—J. M. Fuller's Boise 1, 33-16-6e, lcn. Gulf Ref. Co.'s Millsaps 1, 8-17-6e, dr 2592 ft; Rhymes 3, 28-17-16, set 12½-in at 916 ft; Weymond 1, 20-18-6e, dr 2190 ft. La. Pet. Co.'s Binion 1, 22-17-6e, sd 2474 ft. Moody & Seagraves Osborne 1, 14-15-5e, dr 2501 ft; Hatch 1, 34-16-15, set 6-in at 2293 ft; Hemler C-1, 29-16-6e, set 6-in at 2302 ft; LaFlouer 1, 18-16-6e, set 6-in at 2306 ft; McDonald 1, 9-15-5e, set 8-in at 753 ft. Nat. G&F Corp.'s Sartor-Phillips 1, 9-16-6e, set 5⅝-in at 2289 ft; Sartor B-3, 19-16-6e, lcn; Sartor B-4, 19-16-6e, lcn; Thompson A-1, 21-16-6w, blow out 2477 ft. Noe & Meredith Tr.'s Broughton 1, 4-15-6e, set 8-in at 821 ft. Ouachita Nat. Gas Co.'s Cummings 1, 24-17-5e, set 15½-in at 143 ft. Palmer Corp.'s Wayne 2, 23-16-5e, plugging back to 2475 ft. Rusto Drlg. Co.'s Sartor 1, 17-16-6e, set 6-in at 2285 ft. Southern Carbon Co.'s Sartor 2, 20-16-6e, set 8-in at 875 ft; Sartor 3, 18-16-6e, dk. Southern Carbon Co.'s Spann 1, 8-16-6e, set 12½-in at 192 ft. United Carbon Co.'s Mulhern 1, 20-16-6e, dr 2100 ft.

SABINE PARISH—Clark-Seip et al's Moore 1, 32-10-12, sd 3290 ft. Dixie Oil Co.'s Steinfield 1, 20-10-12, arr to deepen 3285 ft. Doern et al's Pickering Lbr. Co. 1, 17-4-11, set 10-in at 100 ft. L. M. Emlet's Bowman Hicks 6, 8-7-12, sd 3710 ft; Bowman Hicks 7, 11-7-14, fsh 3822 ft; Mansfield H. L. Co. 1, 15-7-14, hole junked 1270 ft. Ruffian et al's McElroy 1, 33-10-12, set 10-in at 100 ft.

UNION PARISH—Barbour Oil Co.'s Tugwell 1, 21-22-1e, sd 2080 ft. Carter et al's Security Trust 1, 7-23-1e, sd 2250 ft. Industrial Gas Co.'s Hill 2, 9-20-3e, dk. Interstate Nat. Gas Co.'s Parks 1, 23-20-3e, dk; Sephenson 1, 6-21-4e, lcn. Natural Gas Prod. Co.'s Waldrop 1, 7-21-3e, set 8-inch at 905 ft. John Potts Agt.'s Bernstein 1, 30-20-4e, dr 1810 ft. Ruston Drilling Co.'s Steele 1, 36-20-3e, dr 50 ft.

WEBSTER PARISH—Ark. Nat. Gas Co.'s North Central Texas 1, 26-23-10, set 6-in at 2660 ft. Humble's Gray 1, 26-21-10, dr 4495 ft; Babb 5, 14-21-10, dr 4414 ft. S. A. Lane's Miles 1, 24-17-9, sd 1469 ft. Magnolia's Camp 1, 36-23-10, lcn; Aarnes Cox 3, 22-21-10, dk; Mixon 1, 22-21-10, dr 3792 ft; Cole 1, 27-21-10, dr 4260 ft; Munn 1, 29-23-9, set 6⅝-in at 2684 ft; J. L. Munn 1, 36-23-10, set 6⅝-in at 2674 ft; R. J. Munn 1, 29-23-9, waiting for csg 400 ft; D. G. Cox 1, 22-21-10, dr 3965 ft. Harry Morris et al's Lewis 1, 15-23-9, rig. Ohio Oil Co.'s Crichton 2, 21-21-10, set 8⅝-in at 3390 ft; Bodcaw 38, 15-21-10, set 6⅝-in at 3400 ft. Woodley Pet. Co.'s Cox B-1, 23-21-10, arr to plug off 4737 ft. J. K. Wabley's Sexton 1, 36-23-10, set 10-in at 300 ft.

WINN PARISH—Ohio Oil Co.'s Rolen Account 2, 5-12-1w, set 8⅝-in at 3881 ft. H. M. Roark's Southern Mineral Co. 3, 19-11-3w, arr to set 6⅝-in at 935 ft.

WEST CARROLL PARISH—Palmer Corp.'s White 1, 2-19-10, arr to plug back 2445 ft.

OKLAHOMA

T 28n, R 3w, Grant County—Sec 6, Otstot Dev. Co.'s Snyders 1, ne c, sd 4518 ft.

T 27n, R 21w, Harper County—Sec 24, A. F. Kopison Oil Co.'s Selman 1, ne c se, spd and sd.

T 27n, R 15w, Woods County—Sec 20, Sooner State Oil Co. and E. R. Black's Marcum 1, c sw, spd and sd.

T 27n, R 5w, Grant County—Sec 18, J. W. Bailey et al's Custard 1, c se, dr 4606 ft.

T 27n, R 2w, Kay County—Sec 23, Boucher et al's Cooper 1, se c, dr 1245 ft. Sec 25, Marland Oil Co. & Boucher, Woods 1, ne c se, sp.

T 27n, R 1e, Kay County—Sec 8, Mathews et al's Buessing 1, nw c, cellar.

T 26n, R 4w, Grant County—Sec 34, Sooner State Oil Co.'s Royce 1, sw c nw, sd 550 ft.

T 26n, R 2w, Kay County—Sec 34, J. H. Markham, Jr.'s McGaha 1, sw c ne, to run 6-in 1355 ft.

T 26n, R 2e, Kay County—Sec 32, J. A. Vincent & National Union Oil Co.'s McNeal 1, nw c ne, sd 2795 ft.

T 25n, R 22w, Harper County—Sec 14, Hoffer Oil Co.'s Cooper 1, nw c se, sd 4182 ft.

T 25n, R 4w, Grant County—Sec 22, Cowden's Vallner 2, ne c se ne sw, fsh bit 5640 ft.

T 25n, R 1w, Kay County—Sec 15, Tonkawa Dev. Co.'s McDaniels 1, se c, sd 4434 ft.

T 25n, R 1e, Kay County—Sec 10, Miller Bros.' Anderson 1, nw c se, hfw 3852-80 ft, fsh 3942 ft.

T 21n, R 1w, Noble County—Sec 7, R. L. Corley's Williams 1, se c ne sw, sd 1920 ft.

Oklahoma Panhandle

T 6n, R 2e, Cimarron County—Sec 24, Jake G. Phillips' School Land 1, nw c, dr 4045 ft.

T 5n, R 2e, Cimarron County—Sec 22, Sinclair O&G Co.'s School Land 1, nw c, cmt off cave 4624 ft.

T 5n, R 6e, Cimarron County—Sec 4, Ramsey Brothers' School Land 1, se c, sd 4265 ft.

T 4n, R 1e, Cimarron County—Sec 34, Ramsey Pet. Co.'s School Land 1, c se, dr 3110 ft.

T 4n, R 25e, Beaver County—Sec 22, O. H. Bonner et al's Maple 1, se ne rig.

T 3n, R 15e, Cimarron County—Sec 17, Texas County Gas Co.'s Barbee 1, c ne ne, spd 50 ft.

T 2n, R 9e, Cimarron County—Sec 2, Fenton, Brookins & Flowers, Smaltz 1, sw c ne ne, spd and sd.

T 2n, R 18e, Texas County—Sec 23, Connelly, Trammell & Danner's Graves 1, ne c sw sw, sd 315 ft.

T 1n, R 15e, Texas County—Sec 26, Hydraulic Oil Co.'s Hitch 1, ne c, sd 600 ft.

T 1n, R 19e, Texas County—Sec 5, Trammell, Connelly & Danner's Taney 1, se c nw, sd 280 ft.

T 1n, R 18e, Texas County—Sec 11, Three Way Oil Co.'s Price 1, sec nw, show gas 2560-2620 ft, water 2990-3006 ft, dr 3358 ft.

T 24n, R 17w, Woodward County—Sec 32, Otstot Dev. Co.'s Simmons 1, se c sd 1500 ft.

T 24n, R 6w, Garfield County—Sec 9, Pulse & Beamer's White 1, se c nw, sd, water at 4720 ft.

T 24n, R 3w, Garfield County—Sec 14, Sagar Oil Co.'s Disney 1, c nw sw, cmt 8-in 4455 ft.

T 22n, R 5w, Garfield County—Sec 3, Ashby & Barr's Swinery 1, nw c, sd 740 ft.

T 21n, R 25w, Ellis County—Sec 9, Oklahoma Northern Oil Co.'s 1, c se nw, sd 300 ft.

T 21n, R 19w, Woodward County—Sec 15, Burgoyne Brothers 1, sw c se ne, dr 360 ft.

T 21n, R 21w, Woodward County — Sec 25, Sharon's Elmore 1, sw c, sd 2778 ft.

Sec 12, Beopple et al's Schriver 1, c e l sw sw ne, sd 1850 ft.

T 20n, R 4w, Garfield County—Sec 9, Marland Oil Co.'s Looman 1, ne c se, dr 5722 ft. Sec 12, Marland Oil Co.'s Miller 1, sw c, sd 4586 ft.

T 18n, R 4w, Logan County—Sec 8, Champlin Ref. Co.'s Musgrove 1, se c sw, dr 4671 ft.

T 19n, R 4w, Logan County—Sec 33, Bryan & Emery 1, nw c se, sd 4505 ft.

T 18n, R 15w, Dewey County—Sec 9, Huckleby & McCoy, Perfect 1, ne c, sd 3274 ft.

T 18n, R 4w, Logan County—Sec 6, Davis 7, Browning's Woods 1, ne c se, lcn. Sec 11, Welch, Acton & Brown's Hall 1, ne c se, sand 4748-85 ft, flowed 60 bbls, dr 5795 ft.

T 18n, R 3w, Logan County—Sec 33, Haley & Consolidated Drlg. Co.'s Quier 1, se c sw, dr by cas at 3690 ft.

T 17n, R 1e, Logan County—Sec 20, T. B. Slick's Signs 1, nw c sw, sd 5067 ft. Sec 28, T. B. Slick's Berry 1, sw c se, hfw 5305-30 ft, dr 5430 ft.

T 16n, R 7w, Kingfisher County—Sec 6, Pet. Eng. Core Drlg. Co.'s Campbell 1, c nw se, rig.

T 16n, R 6w, Kingfisher County—Sec 27, Crawford & McKenna's Sturgeon 1, ne c sw, dr 3650 ft.

T 16n, R 5w, Kingfisher County—Sec 26, Gault Brown Oil Co.'s Johnson 1, c nw, hfw 4185-4205 ft, fsh bit 4320 ft.

T 16n, R 1w, Logan County—Sec 28, Blackford O&G Co.'s Lair 1, c s l n½ se, sd 1675 ft, litigation.

T 15n, R 1w, Logan County—Sec 12, Bu-Vi-Bar's Kirkpatrick 1, c sw, sd 4504 ft.

T 14n, R 6w, Canadian County—Sec 9, A. D. Spears' Piatt 1, se c ne, sd 3223 ft.

T 13n, R 10w, Oklahoma County—Sec 18, Carrell Oil Corp.'s North 1, ne c, sd 1550 ft.

T 13n, R 3w, Oklahoma County—Sec 18, Slick & Bailey's Lufkin 1, c ne se, r. u. s. t. 3750 ft.

T 12n, R 3w, Oklahoma County—Sec 15, Cromwell et al's Thompson 1, sw c ne ne, cmt 6-in 6820 ft, r. u. s. t.

T 11n, R 7w, Canadian County—Sec 9, Ramsey Brothers' Newman 1, c s l ne, dr 3765 ft.

T 10n, R 6w, Canadian County—Sec 1, J. M. V. Bailey's Robinson 1, c ne nw, spd and sd.

T 28n, R 8e, Osage County—Sec 3, Beacon Oil Co.'s 1, sw c ne, D. & A. 2400 ft.

T 27n, R 12e, Osage County—Sec 6, Wa-Sha-She Oil Co.'s 1, c n l s½ ne, sd 1500 ft.

T 26n, R 8e, Osage County—Sec 13, Stephenson, Henry & Rock 1, sw c nw sw, rig.

T 25n, R 6e, Osage County—Sec 4, Kay County Gas Co.'s 1, se c sw, dr 2840 ft.

T 25n, R 7e, Osage County—Sec 8, I. T. I. O. Co.'s 1, se c ne, dr 1700 ft.

T 23n, R 7e, Osage County—Sec 9, Kay County Gas Co.'s 3, sw c se se, dr 2140 ft.

T 23n, R 10e, Osage County—Sec 7, Sheeders Oil & Gas Co.'s 1, c ne, r 6-in 2340 ft.

T 19n, R 1e, Payne County—Sec 33, Gardner Pet. Co. et al's Ham 1, c sw ne, dr 3600 ft.

T 18n, R 3e, Payne County—Sec 32, Garber, Pulse & Gloyd's Widows 1, ne c se nw, sd 1200 ft.

T 17n, R 3e, Lincoln County—Sec 20, Willis O&G Co.'s Gunn 1, nw c se, ts 4636-77 ft, water, sd.

T 17n, R 5e, Lincoln County—Sec 27, Flynn & Morgan's Smith 1, se c ne nw, dr 670 ft.

T 14n, R 7e, Creek County—Sec 11, Lima O&G Co.'s Grayson 1, nw c ne ne, dr 2080 ft. Sec 16, Bu-Vi-Bar's Nero 1, c se ne, cmtd 5-in, td 1557 ft.

T 13n, R 4e, Lincoln County—Sec 16, Bu-Vi-Bar School Land 1, c ne se, sd 4500 ft.

T 12n, R 8e, Okfuskee County—Sec 34, Trans-

continental Oil Co.'s Knight 1, nw c ne nw, D. & A. 4452 ft.

T 19n, R 10e, Tulsa County—Sec 24, Holmes et al's Ragan 1, nw c ne se, hfw 2578-2627 ft, D. & A.

T 19n, R 14e, Tulsa County—Sec 16, Carl Dresser's Franklin 1, sw c se, hfw 1767-85 ft, D. & A.

T 17n, R 13e, Tulsa County—Sec 1, E. A. Hawley's Taylor 1, se c ne, spd and sd.

T 15n, R 9e, Creek County—Sec 33, C. G. Tibbens' J. Marshall 1, sw c sc sw, machine.

T 14n, R 9e, Creek County — Sec 1, L. C. Wheeler & King's Morton 1, se c nw, lcn.

T 14n, R 11e, Okmulgee County—Sec 7, Amerada Pet. Corp et al's Farmer 1, sw c se, dr 1790 ft.

T 13n, R 9e, Okfuskee County—Sec 21, Barnsdall Oil Corp.'s Self 1, swc se ne, 3274 ft co.

T 12n, R 10e, Okfuskee County—Sec 8, Blakely et al's Yarhola 1, swc se nw, sd 2157 ft.

T 11, R 10e, Okfuskee County—Sec 4, Moose & Daniels' Stidham 1, swc nw, sd 622 ft.

T 18, R 15e, Wagoner County—Sec 23, Elk Drlg. Co.'s Norfer 1, nec, dr 40 ft.

T 15n, R 18e, Muskogee County—Sec 12, C. F. Finefield's G. Jobe 1, nwc se, sd 1252 ft.

T 13n, R 17e, Muskogee County—Sec 34, Elk Drlg. Co.'s McKee 1, csl se se se, sd 160 ft.

T 13n, R 18e, Muskogee County—Sec 33, L. T. Haynie's Linder 1, c se, sd 1560 ft.

T 11n, R 13e, Okmulgee County—Sec 27, G. N. Buzzard et al's Thompson 1, nwc ne ne, ur 6-in 3150 ft.

T 9n, R 16e, Pittsburg County—Sec 32, Pattison et al's McDuff 1, swc nw se, set 6-inch 4375 ft.

T 9n, R 18e, Haskell County—Sec 10, Marion Oil Co.'s Sanders 1, nwc ne sw, sd 2250 ft.

T 7n, R 17e, Pittsburg County—Sec 21, Quinton Spelter Co.'s Yoho 1, nec, rig on ground.

T 5n, R 18e, Latimer County—Sec 15, Limestone O&G Co.'s Murray 1, swc, dr 1300 ft.

T 11n, R 2e, Pottamatomie County—Sec 32, Wilcox O&G Co.'s Pickard 1, sec sw, ur 5-in 4420 ft.

T 10n, R 2w, Cleveland County—Sec 22, Cromwell & Franklin's Donavan 1, c sw, sd 4706 ft.

T 10n, R 3e, Pottawatomie County—Sec 12, Sikes, Kilgore & Shaffer's Ives 1, sec se, dr 4616 ft.

T 10n, R 4e, Pottawatomie County—Sec 28, Central National Oil Co.'s Toney 1, swc, cemt 6-in csg 3980 ft, sd.

T 10n, R 5e, Pottawatomie County—Sec 16, Clark, Edwards et al's School Land, nec sw, dr 4652 ft.

T 8n, R 2e, Pottawatomie County—Sec 24, Superior Oil Corp.'s Jones 1, swc nw ne, fsh 4110 ft.

T 8n, R 4e, Pottawatomie County—Sec 1, Amarada Pet. Corp.'s Gravel 1, swc se ne, dr 1250 ft.

T 7n, R 1w, Cleveland County—Sec 15, Sooner Oil Co.'s Vandeveer 1, nec nw sw, sd 2994 ft.

T 7n, R 6e, Seminole County—Sec 7, Simon & Beam's Palmer 1, nec nw ne, rig.

T 7n, R 7e, Seminole County—Sec 32, I. T. I. O. Co.'s Marshall 1, nwc sw, dr 4721 ft.

T 7n, R 8e, Hughes County—Sec 21, Jarvis & Holmes' Street 1, nwc se nw, td 4262 ft, hfw, pb to 3090-3126 ft.

T 6n, R 2e, Pottawatomie County—Sec 10, Davis, Detrick et al's McGahey 1, sec nw, sd 4988 ft.

T 6n, R 6e, Seminole County—Sec 1, T. B. Slick's Moore 1, swc ne sw, dr 2660 ft.

T 6n, R 7e, Seminole County—Sec 5, Magnolia's Vierson 1, sec nw, fsh 3315 ft. Sec 36, Gardner et al's Harris 1, nwc se, dr 2335 ft.

T 6n, R 8e, Seminole County—Sec 18, Carter Oil Co.'s Phillips 1, nwc ne nw, owd, fsh 3936 ft.

T 5n, R 5e, Seminole County—Sec 13, Shaffer O&R Co.'s Isaacs 1, c ne sw, dr 1000 ft.

T 5n, R 6e, Seminole County—Sec 13, T. B. Slick's Barrett 1, nec se nw, dr 3453 ft.

T 5n, R 9e, Hughes County—Sec 17, E. W. Whitney's Ruddlestone 1, sec sw, dr 485 ft. Sec 20, Noble O&G Co.'s Wickett 1, sec, sd 285 ft. Sec 31, Winkler & McQueen's Tyger 1, c sw se, sd 2761 ft.

T 10n, R 12w, Caddo County—Sec 28, Magnolia Pet. Co.'s Selby 1, swc, dr 1150 ft.

T 9n, R 22w, Beckham County—Sec 32, O. & H. Pet. Co.'s Barnes 1, nwc ne, owd, sd 3000 ft.

T 9n, R 5w, Grady County—Sec 13, Remington's Fulton 1, swc ne, sd 720 ft.

T 8n, R 23w, Beckham County—Sec 5, Prince Brothers et al's 1, c sw nw, dr 2960 ft.

T 7n, R 5w, Grady County—Sec 13, Bedman et al's Kemp 1, c sw ne, d and a 2450 ft.

T 6n, R 10w, Caddo County—Sec 22, English Drlg. Co.'s Jacobs 1, nwc se, sd 3540 ft.

T 6n, R 12w, Caddo County—Sec 29, W. J. Hartley's Gilbreath 1, se cor nw se, owd, sd 3394 ft.

T 5n, R 7w, Grady County—Sec 7, Nicholos & Page's Drake 1, cel se, sd 1900 ft.

T 3n, R 10w, Comanche County—Sec 24, Jolly & Ogg's Sparlin 1, sec ne, rur.

T 2n, R 10w, Comanche County—Sec 10, Danciger's Skitler 1, nec se, owd, skow gas 2192-2202 ft, lowering pipe.

T 2s, R 16w, Kiowa County—Sec 6, Landfair's 1, sec sw se, dr 2303 ft.

T 5n, R 4e, Pontotoc County—Sec 12, Gillespie et al's Fleming 1, swc se, sand 2545-2565 ft, swab 25 bbl and sd.

T 4n, R 1e, Garvin County—Sec 15, Dixie Oil Co.'s Perkins 1, sec nw, fsh tools at 4270 ft.

T 4n, R 3e, Garvin County—Sec 10, Garland Oil Co.'s Strickland 1, swc nw sw, sd 2650 ft.

T 4n, R 4e, Pontotoc County—Sec 10, Marland Oil Co.'s Lawrence 1, c sw se, dr by csg.

T 4n, R 6e, Pontotoc County—Sec 13, American O&R Co.'s Wright 1, nwc ne ne, sd 1970 ft. Sec 35, Bowles et al's Rayborn 1, swc se, sd 1320 ft.

T 4n, R 7e, Pontotoc County—Sec 8, J. C. Crosby & Hicks' Nowbaby 1, sec ne sw, material. Sec 14, Henry et al's Johnson 1, nec sw, d and a 1163 ft.

T 3n, R 1e, Garvin County—Sec 12, Magnolia's Vaughn 1, nwc sw nw, dr 4625 ft.

T 1n, R 2e, Murray County—Sec 17, Revels & McGee's M. Wolfe 1, swc, dr 240 ft.

T 1n, R 8e, Coal County—Sec 35, W. E. McGraw et al's Patton 1, swc se ne, sd 935 ft.

T 4s, R 2w, Carter County—Sec 13, Roxana's Sarasota 1, sec, hfw 2260-61 ft, dr 2638 ft.

T 5s, R 4e, Marshall County—Sec 11, Bilbo's Chapman 1, nec nw ne, sd 380 ft.

T 7s, R 3e, Love County—Sec 7, Magnolia's Askew 1, nwc sw ne, dr 3320 ft.

KANSAS

BARBER COUNTY—T 30s, R 14w, Sec 27, Rowland et al's Pickins 1, owd, nec nw ne, dr 3196 ft. T 31s, R 12w, sec 17, Merriman et al's Winter 1, c n½, sd 4315 ft. T 33s, R 12w, sec 19, Schaffer et al's Boggs 1, c sw, dr 4315 ft. 33s, R 13w, sec 2, Schaffer et al's Carter 1, c se se, sd 3395 ft.

BARTON COUNTY—T 19s, R 11w, sec 17, Huffine et al's Smith 1, nec se ne, d and a. T 20s, R 13w, sec 12, Everette & Wiley's Ward 1, nwc sw, sd 3940 ft.

BUTLER COUNTY—T 25s, R 4e, sec 18, Wichita Drlg. Co.'s Joseph 1, nec se nw, sd 2230 ft. T 27s, R 3e, sec 24, La Rob Oil Co.'s Baysinger 1, nec sw, rig. T 27s, R 5e, sec 26, Cress, Frank et al's Bryson 1, nec, spd and sd. T 28s, R 8e, sec 21, Burford & Brimm's Ferris 1, sec ne sw, lcn. T 29s, R 4e, sec 21, E. Wilcox et al's Holcomb 1, nec se nw, sd 1456 ft.

CHASE COUNTY — T 21s, R 7e, Sec 9, Greener, Fowler et al's Carson 1, nec, sd 740 ft.

CHAUTAUQUA COUNTY—T 32s, R 8e, sec 15, Roth & Faurot's Hamil 1, nwc sw nw, lcn. T 32s, R 9e, sec 33, Manhattan Oil Co.'s Payne 1, sec nw nw, ru.

CLARK COUNTY—T 31s, R 23w, sec 16, Walker & Walner's Mitchell 1, swc ne, sd 420 ft.

CLOUD COUNTY—T 6s, R 4w, sec 6, Concordia Oil Co.'s Murdock 1, sec, sd 3590 ft.

COFFEY COUNTY—T 22s, R 15e, sec 9, Garland et al's Goff 1, sec sw se, dr 1100 ft. Sec. 11, Clark et al's Douglas 1, nwc se ne, dr 940 ft.

COWLEY COUNTY—T 30s, R 3e, sec 3, Vickers Pet. Co.'s Daniels 1, nwc ne, sd 1650 ft; sec 32, Derby Oil Co.'s Seaman 1, nec se ne, dr 2065 ft. T 30s, R 6e, sec 20, Allison & Fitzwilliams' Manley 1, nec sw, se, sd 300 ft. T 31s, R 5e, sec 4, Tatlock et al's Elliott 1, owd, nwc se, sd 3422 ft. T 32s, R 6e, sec 12, Trees Oil Co.'s Estus 1, sec nw, dr 1040 ft. T 33s, R 4e, sec 4, White Oil Co.'s White 1, swc ne, rig. T 33s, R 5e, sec 12, Roth & Faurot's Richardson 1, c sw sw, machine. T 34s, R 3e, sec 10, Shawver et al's Amena 1, nwc, dr 1215 ft. T 31s, R 4e, Sec 14, Trees Oil Co.'s King 1, swc se ne, dr 665 ft.

DICKINSON COUNTY—T 16s, R 4e, sec 2, Skow & Ritchey's Will 1, c nw nw, lcn; sec 35, Harwood & Winters' Uteck 1, swc se nw, ts 2275-2305 ft, 100 ft oih.

ELLIS COUNTY—T 13s, R 16w, sec 26, Tatlock et al's Leiker 1, nwc ne ne, sd 3246 ft.

FRANKLIN COUNTY—T 16s, R 18e, sec 17, Smith, Thrice & Fisher's Owens 1, cel e½ e½, sd 1450 ft. T 17s, R 17e, sec 25, Omar O&G Co.'s Brush 1, sec sw, lcn.

GEARY COUNTY—T 10s, R 5e, sec 16, Brinkley et al's Fawley 1, nec nw ne, sd 2502 ft. 35, Eureka Oil Co.'s Brothers 1, sec nw, d and

GREENWOOD COUNTY—T 23s, R 11e, sec nw, d and a at 1975 ft. T 23s, R 13e, sec 8, Golden et al's Knox 1, nec nw , d and a at 1830 ft. T 24s, R 13e, sec 4, Carnes & Bly's Smith 1, nec se, ru. T 26s, R 9e, sec 6, Kiskadden et al's Wilkerson 1, nec se sw, lcn. T 26s, R 11e, sec 22, Devine et al's Bradford 1, swc ne, sd 600 ft. T 26s, R 12e, sec 20, Smith & Rocksill's McNair 1, nwc se, dr 300 ft. T 27s, R 13e, sec 28, O. W. Culp et al's Smith 1, c ne se, dr 1540 ft. T 28s, R 12e, sec 1, Swanson et al's Hayes 1, sec nw ne, sd 1600 ft.

GRAHAM COUNTY—T 8s, R 25w, sec 27, Gulf Coast Drlg. Co.'s St. John 1, owd, swc nw, se, dr 3260 ft.

HARPER COUNTY—T 34s, R 6w, sec 24, Amerada Pet. Corp.'s Mendenville 1, c se se, dr 4005 ft.

JEFFERSON COUNTY—T 9s, R 19e, sec 13, Northern Counties Oil Co.'s Edwards 1, sec nw nw, sd 2405 ft. T 10s, R 17e, sec 19, Wichita Oil Co.'s Simpson 1, nwc sw sw, lcn.

LABETTE COUNTY—T 33s, R 17e, sec 1, Cowell et al's Hornbeck 1, swc ne sw, sd 1375 ft.

LYON COUNTY—T 21s, R 10e, sec 14, Hawks et al's Schroeder 1, sec sw, dr 1525 ft.

MARSHALL COUNTY—T 4s, R 7e, sec 4, Marshall Oil Synd.'s Finn 1, nwc ne ne, dr 2606 ft.

McPHERSON COUNTY—T 17s, R 3w, sec 1, Lamar et al's Lamar 1, sec, ur 3495 ft. T 20s, R 3w, sec 20, Polar Oil Co.'s Dary 1, c nw, spd and sd.

MARION COUNTY—T 17s, R 4e, sec 31, Givins et al's Ucker 1, swc ne, dr 2315 ft. T 18s, R 4e, sec 20, Skow et al's Melcher 1, c ne se, sd 1965 ft. T 18s, R 5e, sec 41, Anderson et al's Benthe 1, sec sw sw, fsh 1700 ft. T 19s, r 4e, sec 17, Frank et al's Reed 1, nwc, sd 2406 ft. T 21s, R 1e, sec 1, Sun Ray Oil Co. et al's Lehrman 1, swc ne se, sd 2710 ft.

MEAD COUNTY—T 33s, R 28w, sec 9, Blackwell O&G Co.'s Lilly 1, c se, sd 3310 ft.

MORRIS COUNTY—T 14s, R 7e, sec 32, Klein et al's Barber 1, sec nw, rig. T 16s, R 9e, sec 22, Lambert et al's Southard 1, swc se, lcn. T 17s, R 5e, sec 30, Graham et al's Nelson 1, nec se, sd 750 ft.

NEMEHA COUNTY—T 3s, R 11e, sec 19, Nemeha O&G Co.'s Myers 1, nwc, sd 3050 ft.

OSBORNE COUNTY—T 9s, R 15w, sec 30, Davis et al's Prather 1, sec sw, sd 2360 ft.

OSAGE COUNTY—T 15s, R 15e, sec 3, Barber et al's Lease 1, c se se, sd 260 ft. T 15s, R 16e, sec 27, West et al's Baley 1, swc ne, sd 800 ft. T 17s, R 17e, sec 8, Mull Vit Dev. Co.'s Neil 1, nwc sw ne, dr 2931 ft.

POTTAMATOMIE COUNTY—T 10s, R 12e, sec 11, Crawford et al's St. Mary 1, swc, sd 2290 ft.

RENO COUNTY—T 22s, R 4w, sec 6, Danciger et al's Williams 1, nec sw se, rig.

RILEY COUNTY—T 10s, R 7e, sec 20, Youker et al's Theirer 1, nwc, dr 3028 ft.

ROOKS COUNTY—T 8s, R 16w, sec 14, Krueger et al's Poor 1, nec, spd and sd. T 10s, R 16w, sec 3, Derby Oil Co.'s Kruse 1, nec nw ne, ts 3075-3141 ft, shot 60 qt co, 42 bbl; sec 28, Streeter & Stearns' Mattiscon 1, c nw, ts 3085 ft, show oil. T 10s, R 17w, sec 16, Hartman & Skaer's Bice 1, c ne, lcn, abn.

RUSH COUNTY—T 17s, R 17w, sec 27, Valerious O&G Co.'s Schreveman 1, c nw, spd and sd.

SALINE COUNTY—T 15s, R 2w, sec 17, Mentor O&G Co.'s Muir 1, swc, dr 3445 ft.

SHAWNEE COUNTY—T 12s, R 14e, sec 21, McBride & Goens' Shirley 1, nec sw, sd 2205 ft.

STAFFORD COUNTY—T 21s, R 40w, sec 23, Harper et al's Siffers 1, owd, nwc sw ne, ts 3385-3400 ft, show oil, dr 3418 ft.

SHERMAN COUNTY—T 7s, R 40w, sec 20, Hannson et al's Murry 1, owd, nec sw nw, sd 2650 ft.

SUMNER COUNTY—T 33s, R 3w, sec 22, Otstot et al's Bartlow 1, sec, sd 1860 ft. T 34s, R 2w, sec 23, Gypsy Oil Co.'s Douglas 1, nec se nw, ts 4493-99 ft, 16 bbl per hr. T 34s, R 3w, sec 4, Jarvis et al's Wernecke 1, sec sw, sd 4205 ft. T 34s, R 4w, sec 11, Jarvis et al's Wycoff 1, swc nw, sd 4216 ft. T 35s, R 1e, sec 9, Otstot et al's Volker 1, nwc ne, rig.

WABUNSEE COUNTY—T 12s, R 11e, sec

19, Empire Gas & Fuel Co.'s Schwalm 1, sec, t wtr s 3400-06 ft, dr.

WOODSON COUNTY—T 25s, R 14e, sec 31, Howard et al's Riley 1, nwc sw, lcn.

ARKANSAS

Completion

UNION COUNTY—
Pitcher & White, Kinard 1, 17-19-15 * 3054

BRADLEY COUNTY—Johnson & Adams' Southern Lbr. Co. 1, 12-12-12, sd 2300 ft.

CLARK COUNTY — McKenzie Oil Co.'s Faken 1, 9-11-19, tested fresh water 645 ft.

COLUMBIA COUNTY — Mitchell et al's Franks 1, 25-19-22, sd 150 ft. Sunny Jim Oil Co.'s Runyon 1, 3-16-21, hole junked 3110 ft. Van Hagen Synd.'s Pickler 1, 19-19-12, sd 850 ft; Mason 1, 31-19-22, rig.

GRANT COUNTY—Jones et al's Meeks 1, 5-4-11, sd 1400 ft.

LAFAYETTE COUNTY — Ken-Saw Pet. Co.'s Fee 1, 31-19-24, dr 3575 ft.

LINCOLN COUNTY—Pine Prairie O. & G. Co.'s Carter 1, 33-10-6, sd 2176 ft.

LITTLE RIVER COUNTY—Grote et al's Allen 1, 2-13-31, sd 2941 ft.

MILLER COUNTY—Guess et al's Saunderson 1, 14-15-26, sd 3004 ft.

NEVADA COUNTY—Aines & Zingg's Womack B-1, 10-14-21, wosr 1215 ft. McDonald et al's Pell 1, 9-15-22, sd 2424 ft. J. J. O'Brien's Haynie A-5, 6-14-20, wosr 1204 ft; Haynie B-5, 1-14-21, pb to 1163 ft; Moss A-17, 1-14-21, rig.

OUACHITA COUNTY—Little Fay Oil Co.'s Robertson 4, 25-16-16, dk. Standard Oil Co.'s Goodwin B-1, 6-16-15, set 4½-inch at 2636 ft.

UNION COUNTY—C. H. Allison's Fitzgerald 10, 17-18-15, tested dry 2175 ft. E. M. Jones' Crain 3, 2-17-14, sd 3670 ft; Crain 4, 2-17-14, sd 3067 ft. W. R. Keever's Kavanaugh 1, 12-17-15, set 10-inch at 41 ft; Ezell 5, 12-17-15, wosr 2170 ft. Lion O. & R. Co.'s Leverette 1, 11-16-16, dr 2475 ft; Murphy D-7, 8-16-15, perf cas 2465 ft. Laurel O. & G. Co.'s Houston 1, 12-16-16, set 4½ and 5-3/16-inch cas 2721 ft. Lyall et al's Stegall 1, 11-17-13, set 12½-inch at 47 ft. Magna Prod. Co.'s Rowland 1, 14-17-14, dr 2708 ft. Magnolia's Carroll 2, 1-17-14, sd 1500 ft; Laney 3, 8-16-16, dk; Laney 4, 8-16-16, dk. Mountz et al's Pratt 6, 8-18-15, dr plug in 6-inch cas at 2146 ft. C. E. Murdock's Murphy 2, 17-16-15, sd 2117 ft. Morefield et al's Hill 1, 7-18-14, set 6⅝-inch at 2212 ft. National Consolidated Pet. Corp.'s Fagg 1, 8-16-16, wosr 2643 ft. Ohio Oil Co.'s Crain 4, 1-17-14, dk; Goode 2, 2-17-14, sd 3054 ft. Oil Well Corp.'s Dumas 1, 11-17-14, tested No. 5 at 3069 ft; Townsend 1, 10-17-14, (formerly Magna Prod. Co.), set 6⅝-inch at 2740 ft. Pitcher et al's Ark Timber Co. 1, 21-17-11, dr, 2705 ft. Pure Oil Co.'s Gregory 1, 10-17-14, set 12½-inch at 183 ft. Dr. Cushing et al's Gregory 1, 11-17-14, dr 2240 ft; Gregory 2, 11-17-14, set 10-inch at 151 ft. Rice et al's Newton 1, 13-17-16, tested sw at 3286 ft. Rovenger Oil Corp.'s Perdue 1, 2-17-14, dk. Semroll et al's Finley 1, 12-17-14, set 12½-inch at 212 ft. Timberlake et al's Dumas 1, 11-17-14, rig. W. R. Keever's Ezell 2, 12-17-15, (formerly L. M. Vaughan) set 10-inch at 120 ft.

SOUTHERN CALIFORNIA

CLAREMONT—Claremont O&G Co.'s 1, sd 1130 ft.

DAVIDSON CITY—Calif. Well Drlg. Co.'s Del Amo 1, sd 7070 ft.

DOMINGUEZ — Dominguez Extension Oil Co.'s Ramsey 1, fsh for dr pipe 5510 ft.

EL SEGUNDO—Rider Synd.'s El Segundo 1, sd 2300 ft. Southern Calif. Well Drlg. Co.'s Matteson 1, sd 4865 ft.

GARDENA—Circue O&G Co.'s Pomeroy 1, sd 4130 ft.

HAWTHORNE — James O'Donnell's Hawthorne 1, sd 5300 ft. San Clemente Oil Co.'s Peck 1, sd 5765 ft. Scott & Currier's 1, nw¼ 33-3-4, new cln. Smith Pet. Co.'s Johnson 1, sd 6215 ft.

HUNTINGTON BEACH—Calnan Pet. Corp.'s S. & W. 1, will plug back to 4550 ft to test showings, td 5107 ft. Duell Pet. Corp.'s Schuh 1, rig. Leo Stein's 1, sd 5155 ft.

INGLEWOOD—Alenson & Co.'s 1, sd 3500 ft. Hurst Oil Corp.'s Simons 1, sd 3740 ft.

LANCASTER—Otis Andrews' 1, dr 1000 ft. John B. Harding's 1, 6¼-in csg cemt 825 ft, td 975 ft.

LYNWOOD—Security Pet. Corp.'s 1, 13-3-13, dr sandy shale 3115 ft.

MAYWOOD—Magnolia Pet. Synd.'s 1, sd 2700 ft.

MONTERY PARK—Montery Park Pet. Co.'s 1, sd 3940 ft.

MONTEBELLO—Rotary Air Drill Co.'s Germain 1, sd 1400 ft.

NEWHALL—W. W. Stabler's Castaic 1, sd 3410 ft.

ORANGE—Charles A. Son's Pinkerton 1, sd 3620 ft.

POTRERO—Associated's Cypress 1, fsh for tubing 5408 ft; Cypress 2, rig, new lcn. Carpenter & Smith's Connolly 1, oil showings around 5400 ft. Pan-American Pet. Co.'s Connolly 1, dr sandy shale 3410 ft.

PUENTE HILLS—Anchor Pet. Co.'s Hudson 1, sd 2270 ft.

RIVERA—Associated's Patterson 1, dr 4818 ft.

SAN FERNANDO—Shell's Mission 1, fsh for 4½-in csg 4955 ft.

SAN JOSE HILLS—Bardeen Oil Co.'s Didier 1, sd 2255 ft. D. & B. Oil Co.'s Amar 1, sd 4380 ft. Fuller & Gray's Sanchez 1, rig.

SEAL BEACH—George F. Getty's 1, sd 680 ft.

SUNSET BEACH—Olympic Ref. Co.'s 1, dr sandy shale 3107 ft.

SAN JUAN CAPISTRANO—O. K. Carr's Forster 2, sd 4185 ft.

TELEGRAPH CANYON—Quadra Pet. Co.'s M. J. M. 1, sd 4210 ft.

WATTS—Southwest Pet. Corp.'s Ramsaur 1, sd 4300 ft.

WATSON — White - Behr Consolidated Oil Co.'s Watson 1, sd 4420 ft.

YORBA—Standard's Yorba 1, slight oil showings 5155 ft.

MISCELLANEOUS

COSTA MESA—Mesa Pet. Corp.'s B. & G. 1, dr 1715 ft.

RIVERSIDE COUNTY—L. R. Clark's Cabazon 1, dr hard sand 564 ft. Hemet Petroleum Co.'s Ward 1, dr hard sand 1950 ft. Spindletop Oil Assn.'s Salton Sea 1, sd 3175 ft. Trabuco Oil Co.'s 1, dr hard shell 3286 ft.

SAN BERNARDINO COUNTY—Colton Terrace Oil Co.'s Colton 1, co bridge, td 1675 ft. Como Oil Co.'s Cajon 1, sd 2845 ft. Del Rosa Oil Co.'s 2, sd 915 ft. H. & P. Oil Co.'s Ranger 1, pulling 6¼-in csg, td 2140 ft. Hesperia O&G Co.'s 1A, plugging from 2400 ft, td 3310 ft. Western Pacific Oil Co.'s 2, sd 3005 ft.

SAN DIEGO COUNTY—Davenport O&G Co.'s 1, dr hard sand 305 ft. Ganymede & Dunn's 1, fsh 3210 ft. J. P. Mills La Jolla 1, dr sandy shale 1450 ft. S. S. Turner's Baler 1, dr hard sand and shell 279 ft.

NORTHERN CALIFORNIA

UPPER POSO CREEK—
Bruce Frame, 1, 18-26-28..... * 2500

SANTA CLARA COUNTY—
Continental Oil Co., Sargent 2, 31-11-4 ..... * 1220

SAN LUIS OBISPO COUNTY—
Elberta Oil Co., Edna 1..... 300 3150

CAMARILLO—
Standard, Camarillo 1, 29-2-20..... * 5720

PIRU—
Continental Oil Co., B-1, 22-5-18.... * 3725

FRESNO COUNTY

NORTH COALINGA—Superior Oil Co.'s 1, 18-21-17, rig. Potter & Esplin's 1, 6-16-14, rig.

RAISIN CITY—Fresno-United Oil Co.'s 2, 23-15-18, sd 3960 ft.

KERN COUNTY

BAKERSFIELD—Pacific Eastern Prod. Co.'s K. C. L. 1, 6-30-28, dr gray sand 5437 ft; K. C. L. 2, dr shale 6-30-28, 10,021 ft.

BELRIDGE—Zurich Oil Co.'s 1, 18-28-22, sd 1875 ft.

BUTTONWILLOW — Doheney - Stone Drill Co.'s 1, 7-29-24 (formerly Milham's Salisbury 1), will drill hole deeper from 4130 ft. McAdams Synd.'s 1, 26-29-23, dr sand shale 4226 ft. Southern California Gas Co.'s 1, 4-28-31, dr 430 ft.

COMANCHE POINT—Kern 29 Oil Co.'s 1, 29-31-30, sd 2440 ft. W. W. Stabler's 1, 23-32-29, rig.

CORRAL CANYON—Shell's 1, 16-26-28, sr to se csg 780 ft.

DELANO—North American Consolidated Oil Co.'s Wallace 1A, 5-25-25, dr shale 2110 ft.

DEVILS DEN—Marathon Oil Co.'s 1, 13-25-18, sd 4390 ft. Midway Northern Oil Co.'s 1, 25-25-18, sd 2460 ft.

EDISON—General Petroleum's Kerwin 1, 5-30-29, pumping 110 bbl, td 3805 ft. Midway-Northern Oil Co.'s 1, 29-29-30, dr 2435 ft. Superior Oil Co.'s 1, 24-29-29, lcn.

FRUITVALE—Pacific Eastern Prod. Co.'s 1, 21-29-27, swabbing for production test, oil and water in hole, td 3820 ft.

GOULD HILLS—Bomke & Ball's 1, 12-29-30, dr sandy shale 1416 ft. Exeter Oil Co.'s Farry 1, 1-29-21, dr hard sand 320 ft. H. B. Porter's 1, 36-28-20, dr 1346 ft. Myrtle E. Oil Co.'s 1, 8-29-21, 8¼-in csg cemt at 910 ft. Ridge Oil Co.'s 1, 13-20-21, sd 4045 ft.

MON BLUFF—Shell's Glide 1, 3-28-28, sr 3970 ft. Signal Gasoline Co.'s 1, 27-27-28, lcn.

SEMITROPIC—Semitropic Oil Co.'s 1, 21-26-22, dr hard sand 600 ft.

SOUTH POSO CREEK—General Petroleum's Glide 7, 21-27-28, lcn. Poso Producers Synd.'s 1, new lcn.

SUNSET—Fresno-Sunmaid's 1, 16-11-24, sd 4200 ft. Salegna Investment Co.'s 1, 9-11-24, dr brown shale 500 ft.

TEMBLOR HILLS—Fortuna Oil Co.'s 1, 28-32-13, sd 2660 ft. Jackson & Chamberlain's 1, 36-29-20, dr 500 ft. Salegna Investment Co.'s 1, 36-29-20, plugged to 435 ft.

TEHACHAPI-MOJAVE—C. R. Asmussen's 1, 23-11-11, sd 1510 ft. Crusaders Oil Co.'s 1, 21-10-10, oil sand 2370 ft. John B. Harding's 1, 5-10-10, sd 1050 ft.

WASCO—Main Oil Co.'s 1, making test at 4180 ft.

SANTA BARBARA COUNTY

GOLETA—Barnsdall Oil Co.'s Edwards 2, 1-4-30, dr oil sand 2196 ft. J. J. Rekar's Pa Patera 1, 8-4-29, dr 2109 ft.

ORCUTT—G. O. Gorham's 1, 33-10-34, rig.

SANTA BARBARA—Petroleum Exploration Co.'s 1, 24-27-27, dr hard sand 2340 ft. Channell Oil & Dev. Co.'s 1, 22-4-26, testing 4¾-in csg 6007 ft.

SUMMERLAND — Summerland Oil Co.'s Becker 1, 22-4-26, co 3000 ft, td 3029 ft.

VENTURA COUNTY

CAMARILLO—Standard's Camarillo 1, abn 5720 ft.

FILLMORE—Group Oil Co.'s 1, 1-4-20, sd 150 ft. J. W. Hackworth's 1, 12-29-27, dr shale 800 ft. Keck Investment Co.'s 1, 33-4-20, dr hard sand 2716 ft. Sespe Oil Co.'s Smith 2, sd 4005 ft.

HOPPER CANYON—Ruth J. Bishop's 1, 35-5-19, sd 200 ft.

MOORPARK—E. A. Parkford's Lloyd 1, sd 4000 ft.

OXNARD—Shell's McGrath 1, dr shale 265 ft.

PIRU—Bolsa Chica Oil Co.'s 1, 5-4-18, lcn. Continental Oil Co.'s 1, 22-5-18, abn 3725 ft. Leonard Oil Co.'s 1, 4-4-18, fsh 3790 ft. Petroleum Securities' 1, 26-5-10, 8⅝-in csg cemt on bottom at 4140 ft.

RINCON—Montecito Oil Producers' 1, 13-4-25, dr hard sand 3570 ft. Scott Petroleum's 1, 35-4-25, 13-⅜-in cas cmt 1730 ft, td 2470 ft.

RED MOUNTAIN—Miley Exploration Co.'s 2A, 7-3-23, co 650 ft, td 755 ft.

SANTA PAULA—W. W. Bryant's Anlauf 1, 21-4-21, pumping some oil 1590 ft; Anlauf 2, 21-4-21, dr 166 ft.

SATICOY—Standard's Saticoy 3, rigging up. E. F. Exline's 1, 33-3-21, lcn.

SIMI—Shell's Berylwood 1, 33-3-20, swabbing 6420 ft; Strathern 1, 6-2-18, dr hard sand 2476 ft.

SOUTH MOUNTAIN — Ring Pet. Corp.'s Converse 1, landed 6¼-in oil string on bottom at 3950 ft.

SULPHUR MOUNTAIN—Bradford & Geis' 1, 21-4-22, producing 250 bbls 2375 ft.

TAPO CANYON — Continental Oil Co.'s Newhall 4, 8¼-in cas cmt 2150 ft.

VENTURA—Star Petroleum's Canet 1A, dr sandy shale 4894 ft.

MISCELLANEOUS

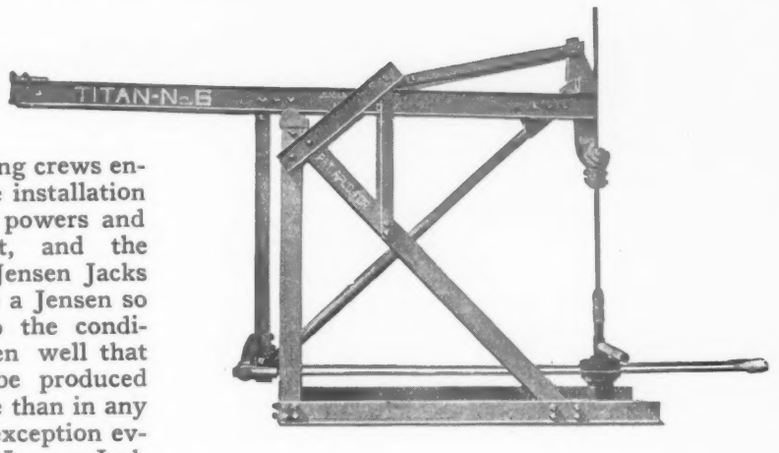
ALAMEDA COUNTY — Thomas & Hammill's 1, 16-3-3, co 1030 ft.

COLOUSA COUNTY—Continental's 2, 31-18-4, dr hard sand 4282 ft. Calivada-Superior Oil Co.'s 1, 31-15-4, pumping some oil 720 ft.

KINGS COUNTY—Associated's Smith 1, 12-23-18, sd 2045 ft. Bolsa Chica Oil Co.'s 1, 30-23-19, sd 3500 ft. General Petroleum's 2, 22-26-18, dr hard sand 6325 ft. Milham Exploration Co.'s Elliott 1, 2-22-17, fsh for bit 6490

JENSEN
Straight Lift Jacks

The Jensen Straight Lift Jack



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Donovan Boiler Works
Oil Country Boilers and Tanks.

Frick-Reid Service Belting
Rubber Covered and Friction Surface.

Jensen Bros. Mfg. Co.
Pumping Jacks.

National Transit Pump and Machine Co.
Power and Steam Pumps.

J. P. Ratigan
Grips, Clamps, Beam Hangers.

Joseph Reid Gas Engine Company
Gas and Oil Engines, two and four-cycle, Band Wheel and Direct Drive Pumping Powers.

Whitlock Cordage Co.
Manila Cordage, including Frick-Reid Manila Bull Ropes—same quality for ten years.

Lapweld and Seamless Tubular Goods

Walworth Company
Valves, Fittings and Tools for Steam, Water, Gas, Oil and Air.

Rossendale-Reddaway Company
"Camel Hair" Belting, Belt Clamps.

Engineering Crews
for the installation of Pumping Powers and related equipment.

ft. South Coalinga Oil Co.'s 1-35-24-19, sr 2990 ft.

MADERA COUNTY—Fort. Wayne-Madera Synd.'s 1, 22-10-17, fsh for dr pipe 2250 ft.

MONTEREY COUNTY—Marland's 1, 32-24-11, lcn.

SAN LUIS OBISPO COUNTY — Elberta Oil Co.'s Edna 1, completed as 300-bbl well. Miley Exploration Co.'s 1, 15-29-17, sd 2540 ft. Richfield's 1, 10-29-17, dr hard sand 2925 ft. Waklin Pet. Co.'s 1, 27-27-11, dr brown shale 2594 ft. Union's 1, 34-32-15, 15½-in cas cmt 517 ft, td 580 ft.

SAN MATEO COUNTY—Shell's Cowell 1, 8-6-5, dr hard sand 5660 ft; Butts 1, 8-6-5, dr hard sand 576 ft. Sequoia Oil Co.'s 1, 13-7-5, dr hard sand 1030 ft.

SONOMA COUNTY — Shell's Murphy 1, 8-5-7, plugged to 1585 ft, td 6380 ft; Mossi 1, 8-5-7, dr hard sand 755 ft.

TULARE COUNTY—Birch Oil Co.'s 1, 13-21-26, dr 3460 ft. Ducor Drilling Co.'s 1, 29-23-27, sd 4160 ft. Federal Exploration Co.'s 1, 15-22-24, failed on production test, td 5760 ft.

MOUNTAIN STATES

COLORADO

ARCHULETA—Kansas-Colorado Oil Co., 17-34-2w, will resume at 1300 ft.

BACA—Phillips-Jones' Jones 1, 26-34s-48w, may skid derrick.

BOULDER—Left Hand Oil Co.'s Precht 1, 34-3n-70, dr 2035 ft. Essok Oil Co.'s Martin 1, 5-1s-70, sd 5225 ft. Repollo Oil Co.'s Nichols 1, 32-1n-70w, water at 6145 ft, will abn.

EL PASO—Grand Union Oil Co.'s John Jr. 2, 19-17s-67w, sd 775 ft.

HUERFANO—Kinney-Coastal Oil Co.'s Pine 1, 24-26s-68w, dr 900 ft.

JACKSON—North Park Oil Co.'s Goettler 1, 9-6n-82w, standing at 506 ft.

LAS ANIMAS—Parker Club Inc.'s Adams 1, 32-34-55, dr 3870 ft. Foley & Goldsworthy's Gov't 1, 11-30-50, standing 2010 ft. Reiter-Foster & Phillips, 23-29s-56, dr 810 ft.

LA PLATA—East Long Beach Oil Co.'s Aspaas 1, 10-34n-11w, set 10-in at 902 ft. Detroit Oil Assn.'s Olbert 1, 9-35-12w, sd 1375 ft.

LARIMER—Five Square O. & G. Co.'s State 1, 16-4n-69w, standing at 305 ft.

LOGAN—Northeastern Colo. Oil Co.'s State 1, 36-8n-55w, dr 5582 ft.

MOFFAT—Ohio Oil Co.'s Kuykendall 1, 22-21n-11w, sd for the winter. Reiter-Foster Oil Co.'s State 1, 16-12-100, sd 2240 ft. Yarg Producing & Ref. Co.'s 205, 26-4n-92w, dr 3405 ft. Alliance Oil Co.'s Milliken 1, 14-4n-92w, dr 850 ft.

MONTEZUMA—Coon & Cotton's Hall 1, 9-35n-13w, sd 1270 ft.

MONTROSE—Indian Pet. Corp.'s Gilmore 1, 4-45-16w, bit lost at 4210 ft.

RIO BLANCO—Texas Prod. Co.'s Freeman 1, 27-3-94, dr 5300 ft. Argo Oil Co., sw 9-2s-96w, ready to spud.

ROUTT—Great Western Oil Co.'s State 1, 17-60-56w, standing at 1700 ft.

WELD—Platte Valley Pet. Corp.'s Patterson 1, 24-6n-61w, dr 3725 ft.

NEW MEXICO

CHAVES—Gibson Oil Corp.'s Forsyth 1, 8-11-23, abn at 672 ft. Buffalo-Roswell 1, 24-11-27, sd 4300 ft. Arean Oil Co.'s 1, 19-13s-31e, ¶1 at 2575 ft. McQuigg Bros.' Neis 1, 7-5w-29e, standing at 1525 ft. Berrendo O. & G. Co.'s Roswell 1, 5-10s-27e, spd.

CURRY—Hasson Pet. Co.'s Laird 1, 22-8-36, spd and sd. Clovis O. & G. Co.'s Hoskinson 1, 21-3n-36, dr 4000 ft.

GUADALUPE—Hanchett Oil Co.'s Rutherford 1, 24-8-24, dr 4200 ft. Union Pet. Co.'s McMullen 1, 24-5n-16, sd 235 ft. Navajo Oil Co.'s Goard 1, 10-31-7, standing at 2538 ft.

LEA—Midwest Ref. Co.'s State 1, 9-19s-38e, dr 1560 ft. Marland Oil Co.'s 1, 19-26s-37e, rig.

McKINLEY—Smart & Reid, 7-17-9, rig. Inland Oil Corp., 22-18-10, dr 1250 ft. S. Dysart's 1,21-14-9, sd 1630 ft. Continental Oil Co.'s Carrica 1, sw 9-17n-7w, dr 3090 ft. Jenkins Oil Co.'s 1, 1-16n-9w, undrr 1301 ft. Williams et al's 2, 30-18-8w, standing at 1795 ft. Reliance Oil Co.'s Valentine 1, 16-17-9, dr 1150 ft. Producers & Refiners' Hospah 2, 12-17-9, dr 800 ft.

QUAY—Gibson Oil Corp.'s 1, 25-8-32, repairing derrick, td 3500 ft.

SAN JUAN—Continental Oil Co.'s Munoz 17, 2-29-19, dr 4415 ft. Kansas-Colorado Oil Co.'s Atterberry 1, 23-31-11, sd at 1850 ft. T. C. N. Oil Co.'s Lanier 1, 9-29-11, sd 547 ft. Huntington Park Oil Co.'s 2, 20-30-9, waiting cable at 4272 ft. R. M. Smith's Abrams 2, 23-29-11, standing at 532 ft. Huerfano Oil Co.'s Wiltbank 1, 25-29-11, standing 800 ft. Union Oil & Mining Co.'s Pine 2, 2-29-9, sidetr tools, td 2850 ft. San Juan Pet. Corp.'s 1, 9-29-13w, dr 2050 ft. A. Johnson's Trustee 1, 34-29n-11w, dr 1200 ft. Poole & Peebles' Lawson 1, 9-30n-11w, wtg cemt to set at 850 ft.

SOCORRO—Abo Oil Co.'s 1A, 14-3s-6e, set 12½-in at 600 ft and sd.

Torrance—Duran Dome Oil Co.'s 1, 31-2-14, dr 1587 ft. F. G. Wilson Trustee's Pace 1, 12-6n-27, standing 2215 ft. Bluhall O. & G. Co., 20-6n-10e, wtg csg, td 890 ft. San Juan Coal & Oil's Randall 2, 26-6n-10e, dr 5050 ft.

VALENCIA—Acme Oil Co., 26-6-3, undrr 2210 ft. Stone et al, 25-7-2, sd 1967 ft, financial difficulties.

SOUTH LOUISIANA

Completions

Company, Well and Location	Initial Production Bbls.	Depth
ASCENSION PARISH—		
Gulf Ref. Co., United Lands Co. 4, Sorrento Dome	4500	1660
CAMERON PARISH—		
Pure Oil Co., Sweet Lake 5, Sweet Lake	1500	5660

ASCENSION PARISH—Gulf's United Lands Co. 4, Sorrento Dome, produced at 4500 bbl a day rate in 15 min test from 1660 ft, 29 gravity oil; United Lands Co. 5, Sorrento Dome, ru. Fee 722, Sulphur Dome, ru; Fee 723, lcn; Fee

CALCASIEU PARISH—Union Sulphur Co.'s 724, lcn. Newton Drilling Co.'s Dupre 1, Lake Charles, coring sandy shale 3365 ft.

CAMERON PARISH—Pure's Sweet Lake 2, Sweet Lake, waiting on orders; Sweet Lake 3, Sweet Lake, sanded up, td 5897 ft; Sweet Lake 4, Sweet Lake, remaing 5905 ft; Sweet Lake 5, Sweet Lake, came in for 1500 bbl initial prod from 5660 ft, flowing through ½-in choke, 29 gravity p l oil. La. Land & Explo. Co.'s Calcasieu Lake A-1, dr 2203 ft; Calcasieu Lake A-2, East Hackberry, lcn 1050 ft n and 679 ft e of se c sec 13, 12s, 10w in r 9w. Calcasieu Oil Co.'s Watkins 1, Kelso Bayou, dr 3834 ft shale and gbo; Watkins 2, Kelso Bayou, ru; Doiron 1, Kelso Bayou, dr 1955 ft rock. Noble et al's Ellender 1, Hackberry, dr 3965 ft gbo. Yount-Lee Oil Co.'s School Land 7, Hackberry, dr 4350 ft gbo; State Land 6, Hackberry, ru; State Land 7, Hackberry, dr 1590 ft.

IBERIA PARISH—La. Land & Explo. Co.'s Vermilion Bay A-1, 3½ mi sw of Cypremont Point, dr into salt at 808 ft, will continue to core about 200 ft and will make new lcn; Avery 1, Avery Island, dr 3285 ft sand and shale. Gulf's Brussard 1, Loreauville, dr 5010 ft; State Z-3, Loreauville, dr 1390 ft. Jefferson O. & Dev. Co.'s Jeff Island Salt Co. 2, dr 3125 ft sand and shale.

IBERVILLE PARISH — Roxana's Wilbert 1, White Castle Dome, reaming 1596 ft. Union Sulphur Co.'s Wilbert 1, Bayou de Glaise Dome, dr 2100 ft sand; Schwing 1, Bayou Blue Dome, fsh 2300 ft.

JEFF DAVIS PARISH—Estropal Oil Co.'s Le Doux 2 ,sd rock 2980 ft. Jno. Carrodine et al's Walsh 1, Welsh, sd 1355 ft. Eunice-Welsh Oil Co.'s Walshe 2, lcn.

ST. MARTIN'S PARISH—Rycade's Atchafalaya 1, abn at 3916 ft. Atchafalaya 2, dr 1375 ft shale.

ST. MARY PARISH—Jacob Dannenbaum's Viguerie 1, Grand Lake, lcn.

TERREBONNE PARISH — Southern Gas Co.'s South Down 4, will clean out.

SOUTHWEST TEXAS

Completions

Company, Well and Location	Initial Production Bbls.	Depth
CALDWELL COUNTY—		
The Texas Co., Roebuck 1, near McMahan	*	2517
WEBB COUNTY—		
Cole Pet. Co., 50-B, blk 7, sec 5, Cuellar grant	*	3451
51, blk 5, sec 412	¶10	2331

CALDWELL COUNTY—Dr. Bute's Boyd 1, spd. Radcliff's Briscoe 1, ne Luling, ru. The Texas Co.'s Roebuck 1, near McMahan, abn at 2517 ft. Hertz & Hinton's Parr 1, td 1396 ft. Joe Bruner et al's Wilson 1, set csg at 40 ft.

DUVAL COUNTY—Humble's Walsh 7 coring 4503 ft. R. Driscoll's Fee 9, sec 23, dr below 2550 ft; Fee 10, sec 448, new hole, dr 1500 ft. National Oil Co.'s Ball 1, dr 787 ft. Milo E. Trussell Trustees' Moody 1, ne part of sec 60, dr 2508 ft.

HIDALGO COUNTY—Queen City Oil & Gas Co.'s American Land & Irrig. Co. 1, n of Mercedes, fsh 2123 ft. Dale Smith's Daskan 1, dr 3235 ft.

JIM HOGG COUNTY—Miller Shaw's Jones 1, sec 381, dr 1533 ft shale. Hale et al's Jones 1, dr 2545 ft.

SAN PATRICIO COUNTY — Pardee Pet. Co.'s Bell 1, 4 mi s Mathis, sd 2848 ft. Leach's Collins 2, nw of Mathis, dr 1215 ft shale.

VAL VERDE COUNTY—East Del Rio's Weatherbee 1, sd 3200 ft. Owens et al's Mills 1, sd 4210 ft. Magnolia's Whitehead 1, dr 5998 ft. Thraves et al's Wilson 1, dr 905 ft.

WEBB COUNTY—J. H. Winch's Gates 1, sec 70, dr 1475 ft shale. Cole Pet. Co.'s 50B, blk 7, sec 5, Cuellar grant, td 3451 ft, abn; 52, blk 5, sec 412, drk; 53, blk 3, sec 412, drk.

WEST TEXAS

Completion

Company, Well and Location	Initial Production Bbls.	Depth
FISHER COUNTY—		
The Texas Co., Stephens 1-A	180	3275

DRILLING REPORT

ANDREWS COUNTY—Carter-Zweifel et al's Cowden 1, sd 5000 ft. J. S. Cosden et al's Bedford-Raltliff 1, sd 4116 ft. Cosden et al's (was Calvin et als) Bedford-Ratliff 1, co 4007 ft. Deep Rock Oil Co.'s Harris 1, elev. 3173 ft, top salt 1705 ft, dr 2185 ft. C. B. McKennon et al's Means 1, elev. 3144 ft, dr 2325 ft.

BORDEN COUNTY—Dixon Creek Oil Co.'s Clayton-Johnson 1, dk. Marland Oil Co.'s McDavid 1, sd 2120 ft; Alex Murphy 1, lcn.

BREWSTER COUNTY—Cowden-Bowser et al's Jackson-Harmon 1, sd 926 ft. Van McPhail et al's McIntyre 1, dr 1440 ft. Mid-Kansas O. & G. Co.'s Turney 1, sd 2685 ft. Reese-White et al's Kimball 1, sd 1305 ft. Wilcox-Anderson's Gage 1, sd 1855 ft.

COKE COUNTY—W. H. Brown et al's Foster 1, sd 3105 ft. Lipan Oil Co.'s Conner 1, sd 3315 ft; Rawlings 1, sd 2736 ft.

CONCHO COUNTY—The Exploration Co.'s Hartgrove 1-A, sd 940 ft. Sartin Oil Co.'s Evridge 1, lcn.

CRANE COUNTY—Crane County Dev. Co.'s Mosley-Brookfield 1, top salt 819 ft, dr 2005 ft. Gulf Prod. Co.'s Waddell 3, elev. 2724 ft, top salt 1165 ft, top lime 3033 ft, top gray 3055 ft, co 3060 ft.

CROCKETT COUNTY — J. S. Cosden & Co.'s Paul Perner 1, set cas 690 ft. Dixie Oil Co.'s Thompson 1, lcn. W. W. Donnelly et al's Massie 1-A, sd 520 ft; Shannon 1, sd making gas 1664-80 ft; Shannon 2, materials; Todd 1, materials. Humble O&R Co,'s Sorg 1, top salt 995 ft, dr 1625 ft. Osage Oil Corp. & T. T. Word's Halff 2, sd for storage 970 ft; Halff 3, spudding. World Oil Co.'s Schneeman 1-B, elev. 2663 ft, top lime 2545 ft, dr 2700 ft.

CULBERSON COUNTY — Deep Rock Oil Co.'s T&P Fee 2, sd 1210 ft; Seay 1, sd 875 ft. Dittman Drlg Co.'s Miller 1, show oil 1036-50 ft, dr 1290 ft. J. M. Hickey et al's Finley 1, spudded and sd. Jas. Gardner et al's Radford 1, sd 635 ft.

JEFF DAVIS COUNTY — Humble O&R Co.'s C. Flores 1-A, set cas 3820 ft. E. L. Smith Oil Co¶'s Means 2, dr 2845 ft.

ECTOR COUNTY—Shoup et al's Davis 2, lcn.

EL PASO COUNTY—Ellsworth & Haunt's McKinney-Jones 1, rig.

FISHER COUNTY — Cranfill-Reynolds & Sun Oil Co.'s Young 1, reset cas 2880 ft; Young 2, spudding. Rainey et al's Marberry 2, sd 2725 ft.

GARZA COUNTY—Emerald Oil Co.'s J. M. Boren 2, spudded and sd. Gulf Prod. Co.'s Swenson 1-A, elev 2492 ft, top salt 495 ft, top lime 2075 ft, dr lime 4195 ft. Marland Oil Co.'s B. F. Pippen 1, lcn.

GLASSCOCK COUNTY—Marland & Texon's Settles 1, elev 2646 ft, top lime 2035 ft, sd hfw 3080 ft. R. R. Penn's Hughes-Johnson 1, lcn. Merriwether Oil Co.'s McDowell 2, rig.

TOM GREEN COUNTY—Fitzgerald et al's Bennett 1, cavey hole 1900 ft. R. O. Haubelt et al's Johnson 1, sd 1205 ft. Lone Eagle Oil Co.'s Sharp 1, lcn. Marland Oil Co.'s Johnson 1, sd 3500 ft; Johnson 1-A, fsh 3190 ft. World

Note rough surface of wrought iron which soaks up the zinc and holds it in a vise-like grip, so that the coating won't flake or peel off.

Note relatively smooth surface of steel, giving such poor anchorage for zinc that it flakes and peels off in handling and wear.

Facts you should know about Galvanized Tubing

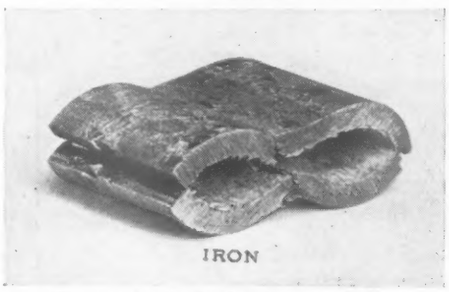
Byers galvanized tubing as well as other pipe in recent tests has shown remarkably long life where other galvanized pipe has rusted out in a short time. The difference in favor of Byers is so marked (from 10 to 20 times longer life) as to call for explanations.

Zinc is such a brittle material that it has never been successfully used alone where strength and light weight are required. Even when applied on a steel base (as in galvanized pipe) its brittleness is so pronounced that the coating will chip or flake off with cutting, threading, screwing up, etc., and where subject to wear.

Zinc Sticks to Byers

When applied on Byers Pipe, the rough surface of the pipe metal holds the zinc in a vise-like grip which prevents it from peeling off. No metal except genuine wrought iron has this rough surface. So-called "iron pipe," sold under various names, does not have it, being in fact only steel of low carbon analysis made in open hearth furnaces.

CORROSION TEST
If you have corrosion trouble anywhere, write us. A corrosion test is easily arranged, and may save you big money in future operations.



Byers galvanized pipe hammered flat, without showing tendency of coating to flake or peel off.

Steel pipe submitted to same test as shown above. Note how galvanizing comes off in big flakes.

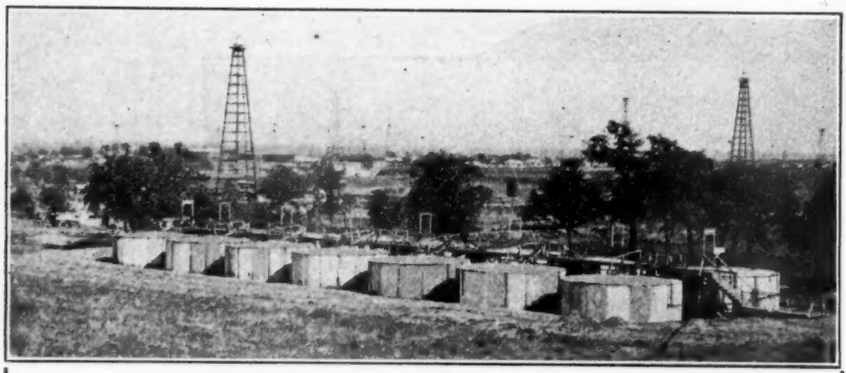
Make this Easy Test!

Cut off two pieces of galvanized pipe, from one to two inches long, one of them Byers, the other steel. Note how the galvanizing flakes off the steel from the end where cut. Then crush both pieces flat with a hammer, and see what happens to the galvanizing! It peels off the steel in big flakes, but sticks to wrought iron like glue.

A. M. BYERS COMPANY
Established 1864 Pittsburgh, Pa.
Distributors
Jarecki Mfg. Co. Oil Well Supply Co.
Norvell-Wilder Hardware Co.

BYERS GALVANIZED Tubing
GENUINE WROUGHT IRON

Say you saw it in The OIL WEEKLY



Durable Tanks for Permanent Use

When it is desired to use economical, quickly erected tanks for permanent storage requirements, MALONEY Bolted Steel Tanks are especially advantageous because of their exceptional durability. The Keystone Copper Steel of which MALONEYS are made is *long lived* sheet steel, and insures economical, safe storage over a long period of time.

Among Maloney mechanical advantages are the patented Maloney "crimp" which promotes accurate fit of parts at seams and joints, reinforcement of seams with rigid steel channels, cantilever construction of deck trusses for the larger sizes, and special oil-heat-treated bolts of 90,000 lbs. tensile strength. Tightness is insured by our specially developed rubber packing and Gaso Cement. Cleaning-out plates are large and set flush with bottoms. Maloney Special Pearl Gray Paint reflects heat and minimizes evaporation. Valve and thief-hatch equipment are the best the market affords.

"Alone in Quality"

MALONEY TANK MFG. CO.

TULSA, OKLAHOMA, U. S. A.

Distributors at All Principal Petroleum Points.

Sizes: 12 to 10,000 Barrels.

Packed in Steel-Bound Crates for Export.

Howell Aluminum "3 in 1" Vacuum Pressure Valve and Thief Hatch—The BEST and LATEST Deck Equipment—POSITIVE Safety

MADE OF KEYSTONE COPPER STEEL — MALONEY PATENTED BOLTED COPPER-STEEL TANKS — MADE OF KEYSTONE COPPER STEEL

MALONEY

TALONEY

Oil Co.'s Pulliam 2, elev 1923 ft, fsh 540 ft; March 1, lcn.

HOCKLEY COUNTY—World Oil Co.'s Ellwood 1, sd 1450 ft.

HOWARD COUNTY—Bristow & Merrick's Roberts 1, dr 910 ft. Coyle-Concord Oil Co.'s Roberts 3, dr 1630 ft; Roberts 4, dr 1220 ft. Dixie Oil Co.'s Clay 1, sd 3347 ft. F-H-E Oil Co.'s Roberts 2-B, spudding; Roberts 1-C, sd 1940 ft; Roberts 1-D, show oil, dr 2500 ft. Gulf Prod. Co.'s Chalk 4, dr oil pay 1637 ft. Godley O. & G. Co.'s Hooks 2, fsh 1794 ft. Henshaw & Co.'s Settles 1, sd 1900 ft. Lockhart & Co.'s Roberts 1, dr 2590 ft. Magnolia Pet. Co.'s Kelly-Chalk 10, dr 690 ft; Harry Hyman 1, dr 330 ft; Roberts 2, elev2737 ft, top lime 2033 ft, dr 2855 ft; Roberts 3, fsh 700 ft; Roberts 4, rig; Roberts 5, dr 1660 ft; Roberts-Magnolia 1, dr 575 ft. Marland Oil Co.'s Clay 1-E, plug back from 3656 ft to 2720 ft; Richardson 1, elev 2359 ft, dr 3080 ft. Marland & Texon's Jones 1, sd 3215 ft. Mays & Nixon's Flowers 1, sd 1390 ft. Merrick & Lamb's Clay 3. dr 40 ft. J. R. McCaldin et al's Roberts 1, dr 525 ft. Owen-Sloan Oil Co.'s Roberts 2, flowing 150 bbls per hour 2955-3005 ft, sd storage; Roberts 3, rig; Roberts 4, lcn. Schermerhorn Oil Co.'s Roberts 1, dr with hfo 2963-86 ft; Roberts 1-A, dr 1770 ft. Sprague Oil Co.'s Roberts 1, spd and sd. Sun Oil Co.'s Settles 1, dr 1685 ft. Vitek Oil Co.'s Clay 2, dr 1320 ft. Weekly Oil Corp.'s Roberts 3, dr 1435 ft Greene Oil & Ref. Co.'s Clay 1, lcn.

HUDSPETH COUNTY—Western States Oil Co.'s Gardner-Mosley 1, sd 800 ft; Moore 1, fsh 1140 ft.

IRION COUNTY—P. E. Hill et al's Horney 1, lcn. F. E. Webb et al's Nutt 1, spd and sd.

JONES COUNTY—R. F. Garland & Co.'s Glynn 1, fsh 2430 ft. F. E. Shaheen-Hutson & Weaver's Smith 1-A, sec 51, blk 18, swabbing 50 bbls oil 2498 ft. Phillips Pet. Co.'s Pomroy 1, testing oil pay 2430 ft. W. C. Stough et al's Bennett 1, sd 800 ft; Willis 1, sd 1740 ft.

KING COUNTY—Humble O. & R. Co.'s Pitchfork 1, sd 3593 ft.

LOVING COUNTY—Delaware Oil Co.'s Lockhart-Ramsey 1, dr 565 ft. Lockhart Bros. et al's Fee 1, top salt 708 ft, sd 2260 ft. Owen-Sloan Oil Co.'s Johnson 1, top salt 955 ft, dr 2985 ft.

MENARD COUNTY—May-Clark et al's Callan 1, sd 450 ft. Renfro et al's Davis 1, sd 255 ft.

MIDLAND COUNTY — Gholson et al's Moreland 1, dr 905 ft. O. H. Shoup et al's Park 1, dk.

MITCHELL COUNTY—Boehn Drlg. Co.'s H. Hyman 1, lcn. Paul Teas et al's Mills 1, sd 1100 ft.

PECOS COUNTY—Geo. H. Anderson et al's Sherbino 1, elev 2866 ft, top salt 928 ft, dr 2710 ft. Benedum-Trees et al's Corden 1, lcn. Buell-Hagan's Pryor 1, lcn. Day Bos. & McKnight's Yates 1, elev 2213 ft, sd in sul water 1217 ft. Bob Elmore et al's M. Holmes 2, fsh 390 ft. Everett et al's J. Fields 1, spd and sd. Gibson Oil Corp.'s Russell 1, elev 3509 ft, dr 1015 ft. Henshaw & Co.'s Corder 1, elev 2980 ft, top salt 1130 ft, fsh 2150 ft. Kershaw & Livingston's Cannon 1, dr 765 ft. Robt. Lee et al's Parker 1, lcn. Michaelson & Tabot's Pecos River Bed 1, spd and sd. Mid-Kansas O. & G. Co.'s Pryor 1, rig. Miller & McNees' Tyrell 1, lcn. Moody Corp.'s Corder 1, elev 2996 ft, top salt 1120 ft, fsh 2960 ft. Oregon Oil Corp.'s Yates 1, dr 485 ft. Phillips Pet. Co.'s Smith-Monroe 1, dr 770 ft. B. J. Spikes et al's Brown 1, spd and sd. Stidham & Thrasher's Tompklin 1, spudding. Transcontinental Oil Co.'s Blackstone-Slaughter 1, elev 3539 ft, dr 4720 ft; University 1, rig. Vacuum Oil Co.'s Elsinore 1, spudding. World Oil Co.'s M. Cerf 1, elev 3435 ft, fsh 725 ft; Kloh 1, elev 2810 ft, sd repairs 290 ft.

REAGAN COUNTY—Hagan & Emch's Loftin 1, rig. Moody Corp.'s Walters 1, rig. Roxana Pet. Corp.'s Sawyer 1, rig. Skelly Oil Co.'s University 1, sw cor sec 33, blk 8, elev 2874 ft, top salt 1340 ft, top lime 3065 ft, pb from 3157 to 3153 ft with 1500 ft 33.8 degree gravity oil. Texon Oil & Land Co.'s University 1-B, Group 1, swabbed 40 bbls oil, td 7365 ft. The Texas Co.'s Sugg 3, rig. J. T. White et al's Schafner-Sterling 1, top salt 1275 ft, sd 2175 ft.

REEVES COUNTY—The Exploration Co.'s Kinney 1, dr 1620 ft. D. R. Thompson et al's Eddins 1, dr 4965 ft. Grisham-Hunter Corp.'s Rathage-Conner 1, dr 685 ft. Vacuum Oil Co.'s Grisham-Hunter 1, dr 730 ft. World Oil Co.'s

SECO HOSE CLAMP
AND NOZZLE
(ALL STEEL)

Adds 150% to Life of Hose

At least 98% of hose trouble is caused from loose wire at the end of the clamp. The SECO HOSE CLAMP AND NOZZLE is made to go over the wire, and prevents the wire from loosening. It gives the entire hose wire protection.

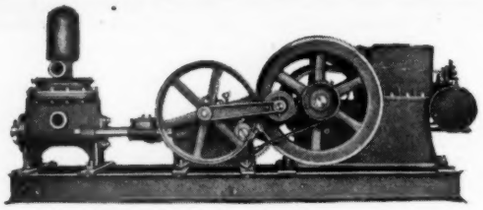
The SECO HOSE CLAMP AND NOZZLE has been tested up to 1800 pounds pressure without danger of a blow off, and can easily be used up to 1000 pounds pressure on any ordinary 6-ply hose.

Complete information, including prices, on the **Seco Hose Clamp and Nozzle**, the **Seco Valve Seat Puller**, the **Seco Liner Puller**, the **Kibele Self-Expanding Piston**, and the **Kibele Guy Wire Tightener** will be gladly furnished you by your supply store or by writing direct to

Mission Sales Company

Esperson Building

Houston, Texas



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WHETHER your job calls for a casing wagon or a power driven pump you'll save by buying an Alten. The saving comes in the lower operating costs. Alten products are made of the highest quality materials, selected through nearly 40 years of manufacturing experience, and built to meet the hard service requirements of the oil field. It will pay you to specify ALTEN.

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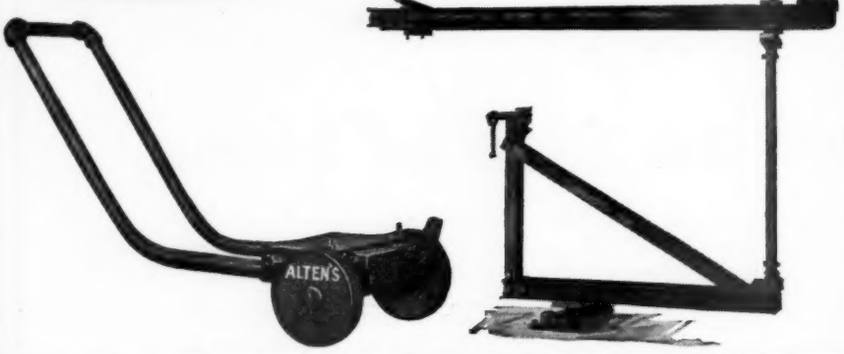

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"High Manganese" RODS

Made in Both Box and Pin and Double-Pin Types

S. M. JONES COMPANY, Toledo, Ohio

TULSA OFFICE: 602 WRIGHT BLDG.

Duff 1, sd 4514 ft; B. T. Biggs 1-B, elev 3068 ft, dr 1935 ft.

RUNNELS COUNTY—Empire Gas & Fuel Co.'s Gray 1, sd 2448 ft. Gibson-Johnson et al's Harris 1, lcn; Serratt 1, dr 450 ft. Globe Pet. Co.'s Webb 1, dr 375 ft. Griswold et al's Boyer 1, sd 635 ft. Jones Oil Synd.'s W. Hale 1, ur cas 1690 ft. Kenwood Oil Co.'s Talley 1, sd 1720 ft. McLean et al's G. W. Taylor 1, dr 425 ft. Henry B. May et al's Shneider 1, elev 166 ft, dr 1320 ft. Marland Oil Co.'s R. R. Russell 1, lcn. Marland & E. L. Smith Oil Co.'s A. C. Herring 1, lcn. Miles Oil Co.'s Lawhon 1, sd 2310 ft; Chas. Ray 1, dk. Royal Pet. Co.'s Willingham 1, sd 865 ft. Swensondale Oil Co.'s Werner 1, elev 1803 ft, dr 2075 ft. Vacuum Oil Co. et al's McMillan 2, dr 1550 ft. Robt. Watchorn O. & G. Co.'s King 1, elev 1660 ft, dr 2410 ft.

SCHLEICHER COUNTY — Thos. Gray et al's Robinson 1, dr 3325 ft.

SUTTON COUNTY—National Potash Co.'s Ross 1, sd 960 ft.

TAYLOR COUNTY—A. J. Brown Producing Co.'s Henslee 1-A, elev 2010 ft, dr 2490 ft. Gilbert Johnson et al's Brown 1, fsh 1270 ft. Owen-Sloan Oil Co.'s Latimer 1, sd 2825 ft.

TERRELL COUNTY—Big Bend Oil Co.'s Bassett 1, lcn. Champlin Ref. Co.'s Carter 1, dr 630 ft. Deep Rock Oil Co.'s Noelke 1, dr 625 ft. Humble O. & R. Co.'s University 1, sd 895 ft. Milham Corp.'s Bassett 1, sd 1788 ft. Miller Bros. et al's Allison-Murke 1, rig.

UPTON COUNTY—Curtis-Hults et al's Giddings 2, dr 955 ft. Southern Crude Oil Pur. Co.'s Hobbs 1, dr 3015 ft. The Texas Co.'s Cordova Union 1, pb from 3201 to 2350 ft.

VAL VERDE COUNTY—Magnolia Pet. Co.'s Whitehead 1, dr 5970 ft. O. O. Owens et al's Mills 1, sd 4210 ft. W. B. Thraves et al's Wilson 1, sd 905 ft.

WARD COUNTY—Selby O. & G. Co. et al's Dooley-Rogers 1, sd 500 ft. Devore et al's Black 1, spudding.

WINKLER COUNTY—Atlantic & J. D. Collett's Hendrick 1-F, elev 2884 ft, top lime 2436 ft, pull big pipe in oil pay 2655-85 ft; Hendrick 2-F and 3-F, rigs. Amerada Pet. Corp.'s J. B. Walton 1, elev 2833 ft, dr with show oil and gas 2415ft. Cranfill-Reynolds et al's Hendrick 1-C, dr gas pay 2435 ft; Hendrick 2-C, rig. Humble O. & R. Co.'s T. G. Hendrick 1-C, dk; J. B. Walton 1-A and 1-B, lcns. Independent Oil & G. Co.'s Cowden-McCabe 1, spudding. Marland Oil Co.'s T. G. Hendrick 1, 2 and 3, lcns. Llano Oil Co. and Rovana's Scarborough 2, elev 2943 ft, top salt 1120 ft, dr 1325 ft. Llano Oil Co.'s Armstrong 1, lcn. Sheldon & Burden's Hendrick 1, elev 2806 ft, top lime 2610 ft, dr with small show oil 2719-3035 ft. Southern Crude & R. A. Westbrook's E. G. Cummings 1-T-90, (Sec. 47) cem cas 2340 ft. White Eagle O&R Co. et al's Leck-Collins 1, pull casing 3260 ft.

TEXAS

TEXAS GULF COAST

Company, Well and Location	Initial Production Bbls.	Depth
HARRIS COUNTY—		
Dr. P. S. Griffith, Fee 2, 12 mi n of Houston	*	3517

AUSTIN COUNTY—Humble's Gotosky 2, Raccoon Bend, producing 250 bbl; Wilson 1, Raccoon Bend, dr 1144 ft hard sand rock. Alexander & Lyles' Goebel 1, Raccoon Bend, dr 2550 ft sand. L. H. Weadock's Ward 1, dr 730 ft gbo.

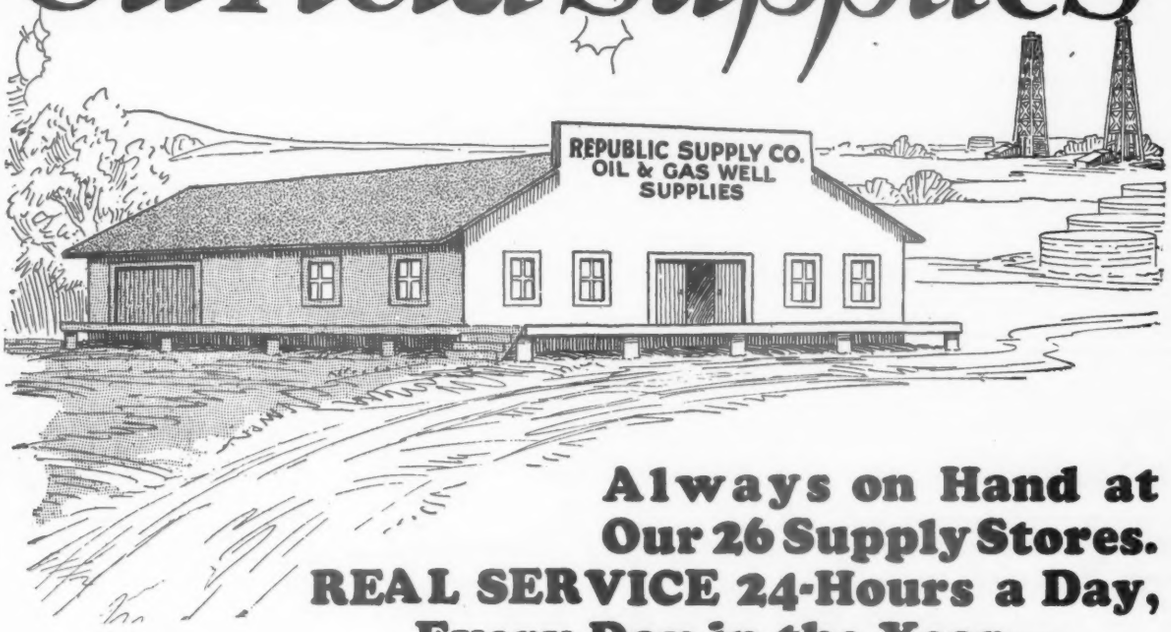
BRAZORIA COUNTY—Roxana's Allen Bernard 1, Allen Dome, prep to put well on pump, td 5337 ft; Allen 4, Allen Dome, produced oil for 3 hr and quit, ru to bail; Randon 1, Allen Dome, blew out, making dry gas and later bridged over, freezing dr stem; Bell 2, Clemens Dome, dr 5693 ft lime and shale. Stanfield & Myers' McNeil 1, Hinckle Ferry, lcn.

CHAMBERS COUNTY—Pure's Lost River 1, Lost Lake Dome, dr around 2900 ft; Old River 1, Lost Lake Dome, drk; Trinity River 1, Lost Lake Dome, drk; Little Lost Lake 1, Lost Lake Dome, dk; Cut-Off Bayou 1, Lost Lake Dome, lcn. R. L. Bartlett's Fisher 1, Barbers Hill, dr 1935 ft shale.

COLORADO COUNTY—Rich Oil Corp.'s Von Rosenberg 1, 2½ mi ne of Columbus, td 1063 ft. Johnson Bros.' Breeding 1, ne of Sheridan, dr 835 ft. Carl Milentz's Auerbach 1, near Glidden, sd 580 ft.

FORT BEND COUNTY—Sun Oil Co.'s Kas-

A Complete Stock of Oil Field Supplies



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Howe Rotary Chain
Walworth Fittings
Powell Valves
R. & J. Dick Balata Belting and Valves
"United' Pumping Specialties
Reed Roller Bit Co. Products
Bradford Pumping Equipment
Spang Weldless Drilling Jars
Hough Pumping Equipment
Republic Rubber Belting
Kibele Pressure Piston
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parek 2, Boling, dr 280 ft; J. R. Farmer 5, Boling, dr 2835 ft shale; J. R. Farmer 6, Boling, dr 470 ft; J. R. Farmer 7, Boling, dr 510 ft; H. R. Farmer 4, Boling, temp abn 675 ft; H. R. Farmer 5, Boling, dr 650 ft; H. R. Farmer 6, Boling, drk; H. R. Farmer 7, Boling, dr 600 ft gbo; E. C. Farmer 1, Boling, ru. Southern Explo. Co.'s Mullins 1, Boling, dr 3735 ft. Gulf's J. M. Moore 15, Moore's Field, ru. Humble's Sugar Land Industries 1, Sugar Land, dr 2196 ft.

HARRIS COUNTY—Dr. P. S. Griffith's Fee 2, 12 mi n Houston, abn at 3517 ft. Juanita Oil Co.'s Kitsman 1, 3 mi n of Cypress, washing to bottom. Humble-Marland's Warren 2, Hockley, reaming at 4131 ft; Eex-Ex-Warren 1, Hockley, dr 66 ft.

JEFFERSON COUNTY—Deep Test Oil Co.'s McFaddin 1, 4 mi ne of Spindle Top, sd 2175 ft. Southern Spindle Top O. & Dev. Co.'s McMurry's Crosby 2, 5 mi ne Port Arthur, dr Young 1, 1 mi w Nederland, sd 3350 ft. Jim 2460 ft. Port Arthur O. & Dev. Co.'s West 4, Westbury, dr 3370 ft. Hinds Oil Co.'s Parker 3, ne side of Spindle Top, dr 2725 ft. Traders Oil Co.'s Cissell 1, dr 1945 ft.

LIBERTY COUNTY — Harrison Oil Co.'s Quintette 2, N. Dayton, temp abn. The Texas Co.'s Havard 1, Davis Hill, reaming 4700 ft; Green 1, S. Liberty, dr 1420 ft gbo; Staiti 8, S. Liberty, moving in rig. Yount-Lee Oil Co.'s Mitchell 2, S. Liberty, dr 1595 ft gbo. Sun Oil Co.'s Mitchell 1, S. Liberty, spd. Barlow et al's Minchcliff 1, 2½ mi ne Cleveland, sd 2215 ft.

MATAGORDA COUNTY—Matagorda Dev. Co.'s Hawkins 1, Bay City, sd 1985 ft.

WHARTON COUNTY — Rich Oil Corp.'s Lee-Clipson 1, ½ mi sw of Lissie, dr below 550 ft.

The C. & G. Cooper Company, Mt. Vernon, Ohio, is distributing a handsome calendar for 1928. Each page carries a record for three months, the present, the one following and the one past. Copies can be secured upon application to the company.

Panhandle Crude Price Justified in Panhandle Report

(Continued from page 24)

sulphide gas on processing through the refinery, both of which add to the difficulties and increase the expense of refining.'

"Another company alleged that the physical properties of the crude product involved unusual expense in transporting the crude from wells to storage or refineries. This company reported a high viscosity of the oil at normal temperatures. The viscosity is 'fairly normal down to 50 degrees Fahrenheit, but any temperatures under that increase very materially the viscosity of the oil making it necessary to process it in some way in order to change its viscosity or to keep it at a temperature above 50 degrees Fahrenheit.'

"A third company reported that 'the crude oil produced in the Panhandle field is high in paraffin content and congeals at a temperature of about 60 degrees, making it very difficult to pump during winter weather.'

"Inquiry concerning development of the Panhandle field revealed that both producers and purchasers underestimated the productivity of the new field. In 1925 there was a total of 58 completed wells. Of this number 60 per cent were oil producers with an average initial output of 269 barrels a day, while 21 per cent were gas wells and 19 per cent unproductive or dry holes. With completed wells costing from $35,000 to $40,000 each this proportion of dry holes offered little encouragement to the smaller producers. However, during the first half of 1926 the new wells completed showed 87 per cent oil producers with an average initial flow of 600 barrels a day and dry holes constituted only six per cent. Such a large proportion of producing wells and scarcity of dry holes offered strong inducement to rush drilling operations with the result that by the end of the year 831 wells had been completed in the Panhandle.

"Out of the 831 wells completed in the Panhandle field in 1926, Hutchinson County had 668 and of this number only six wells, or less than one per cent were dry. The crude oil in storage in this field January 1, 1926, amounted to only 177,745 barrels. The output for the year 1926 reached 25,545,000 barrels and December 31, 1926, the stocks in storage amounted to 10,153,000 barrels. Of the remaining 15,570,000 barrels a small part was consumed locally but the great bulk was shipped to other points.

"The Panhandle field in the main comprised in 1926 the six counties of Hutchinson, Carson, Gray, Wheeler, Moore and Potter, extending across the northern Panhandle of Texas. The estimated prospective oil producing area was approximately 100 miles long by about 15 miles at its widest point."

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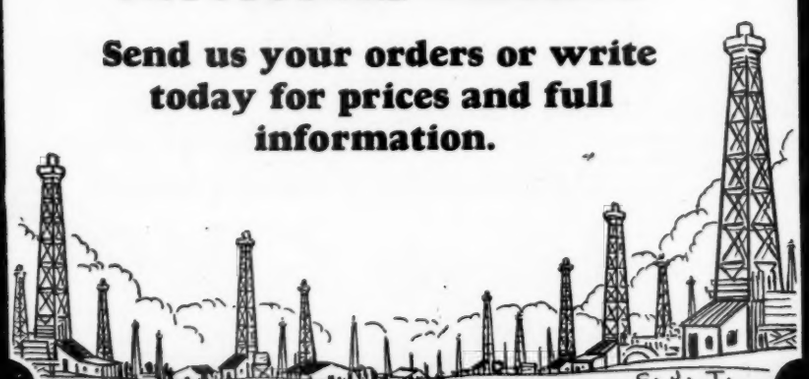


THE LARGEST SUPPLY HOUSE IN THE SOUTHWEST

PEDEN IRON & STEEL CO.

HOUSTON – SAN ANTONIO – SHREVEPORT

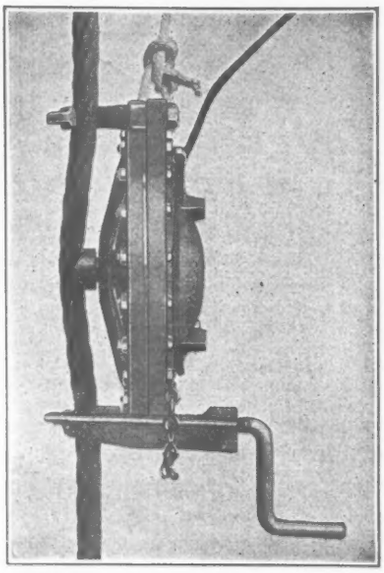
Martin-Loomis
Automatic
Recording Weight Indicator

No Moving Parts

No Wear

Extreme Simplicity

Maximum Accuracy



Bronze Case Containing Rubber Diaphragm Attached to Dead Line

All Bronze

Easily Installed

Fool Proof

Internationally Used

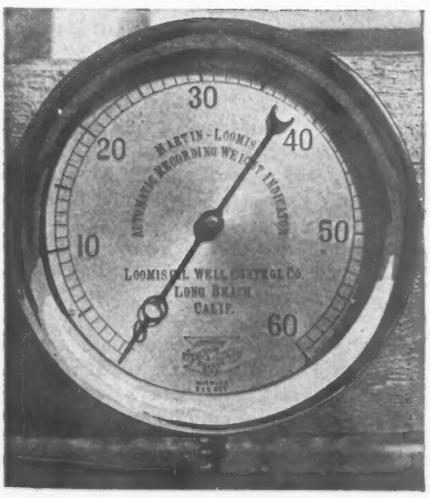
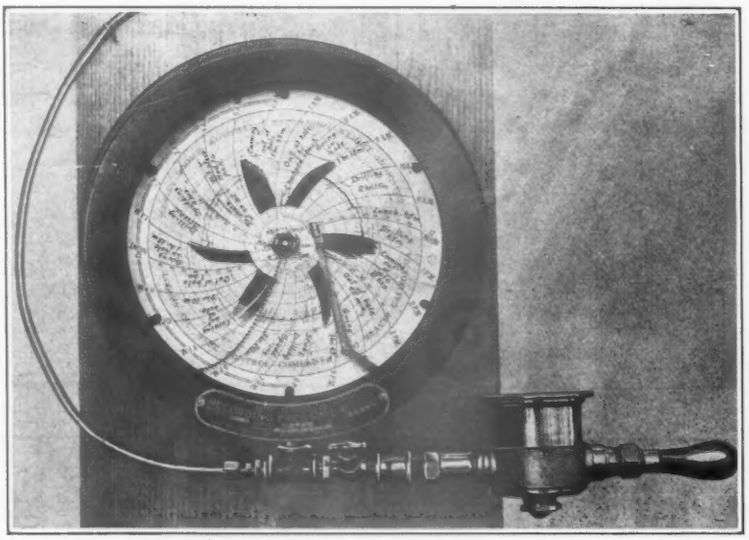


Fig. 3—Gauge used in conjunction with weight indicator placed in easy view of the driller



Showing details of 24-hour day drilling record as recorded through weight indicator

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OIL WELL SUPPLY COMPANY

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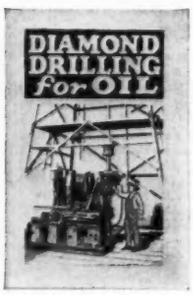
REED ROLLER BIT CO., HOUSTON, TEXAS

Say you saw it in The OIL WEEKLY

Diamond Drill to the Rescue!

—but how much cheaper to have diamond drilled the whole job

An expensive operation in India was to be abandoned. At 4200 feet the combination rig had reached its limit, and the desired information had not been obtained.



A Sullivan Diamond Drill was transported to the hole, by camel and ox cart. It started in the hole at 5 inches, and in three months time had bored down to 6007 feet, finishing at 4 inches. It could have drilled deeper, if necessary, but the core obtained gave conclusive information at that depth. Thousands of dollars, and months of time could have been saved, if only the hole had been started with the drill that would finish it, regardless of depth, and formation encountered!—a Sullivan Diamond Drill.

In new fields, where the formation is unknown, the Diamond Drill saves changing from one type of rig to another. It works in hard or soft formation. *That's one reason 50 great oil companies now use them.*

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always reliable—for use where excessive sand is present. Packaged and stocked by good supply stores. Demand original.

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Distributors

Oklahoma Firm Ships Field Supplies to Russia

Oklahoma City.—The American Iron and Machine Works, Inc., with headquarters here, recently filled 20 foreign orders amounting to more than $40,000, for the Soviet government.

The shipment included various oil field tools to be used for rotary drilling rigs on deep wells in the Russian fields, principally Baku.

The transaction was made through the Oil Well Supply Company, of Pittsburgh.

E. E. Hoffman is a recent addition to the sales engineering staff of the Wico Electric Company, Springfield, Massachusetts. He has had long experience in the electrical field. After graduating from Columbia University in 1910, his first work was as mechanical engineer of the electric division of the New York Central Railroad. Later he joined the forces of the Willys-Overland Company, in Toledo, as research electrical engineer, and was soon advanced to the position of assistant production engineer. For a time he specialized in the electrical end of oil burning equipment for industrial plants. He then became associated with the Indian Motorcycle Company, of Springfield, as chief engineer.

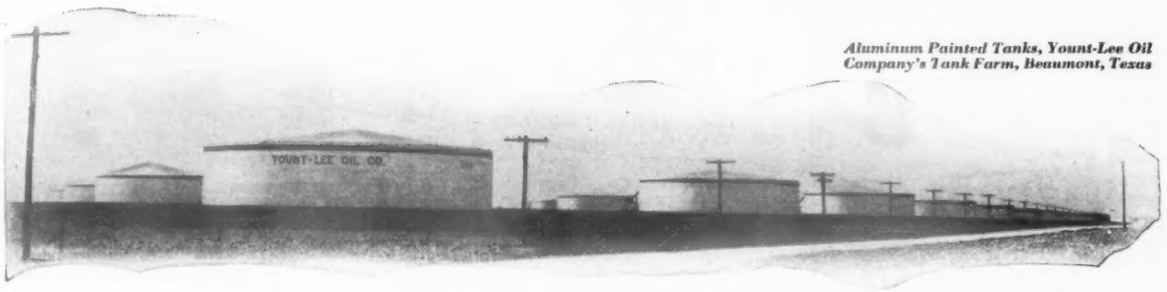
According to announcement by officials of the Dunn Manufacturing Company of Oxnard, California, A. V. "Ace" Bland, well known in the Mid-Continent and Gulf fields, is to join that company early in February as Gulf Coast representative. Mr. Bland is widely acquainted throughout the oil industry, having been associated with the Oil Well Supply Company in Gulf Coast, Louisiana and Arkansas for many years. His most recent position with that company, which he leaves to join the Dunn Manufacturing Company, was as store manager at El Dorado, Arkansas. He brings to his new position years of experience as an oil tool authority. Mr. Bland will assume his new duties at once, calling on Gulf Coast operators.

The Bureau of Economic Geology, University of Texas, Austin, Texas, has recently published a leaflet listing available publications of the Bureau. These deal with the geology of various parts of Texas and cover widely distributed areas. Copies of the leaflet can be had upon application to the Bureau.

Washington.—A bill recently introduced in the Camara of Deptados of Brazil, and said to have the backing of the federal administration, provides federal control over the exploitation and exploration of deposits of hydrocarbons in Brazil. While this proposed act does not specifically contravene the rights of States as regards their public lands, its provisions amount to a control of the production of petroleum in the republic.

A SAVING OF 100 BARRELS PER TANK

—*Says the U. S. Bureau of Mines*



Aluminum Painted Tanks, Yount-Lee Oil Company's Tank Farm, Beaumont, Texas

THE Bureau of Mines Report, Serial No. 2677, states that in one year a black-painted "55" oil storage tank loses 649 barrels by evaporation, a red tank 609 barrels, a grey tank 547 barrels and an Aluminum-painted tank *only 447 barrels*—a clear saving of 100 barrels per tank over the next best practicable color.

Aluminum Paint is the most economical paint because of its saving in evaporation loss. But this is not all. It is most economical in its *lasting quality*. It retains its reflectivity. It has remarkable protective qualities —not only against rust, but also against destructive fumes, even those of hydrogen sulphide.

And it costs no more than ordinary paint.

These are the reasons behind the wide-spread use of Aluminum Paint in the oil industry—on storage tanks and refinery equipment—on tank cars and tank trucks.

Write today for "Aluminum Paint" booklet.

ALBRON ALUMINUM BRONZE POWDER

Trade Mark

The pigment base for the better grades of Aluminum Paint is Albron Aluminum Bronze Powder, made of pure ALCOA Aluminum.

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Say you saw it in The OIL WEEKLY

GRAY GRAY

Your GAIN is Big from a DRY Tubing Job

GAIN in saving oil otherwise spilled on the ground.

GAIN through the steady pumping of your wells, as at least 50% of tubing jobs are eliminated.

GAIN, in that you will pull tubing with two lines instead of three and in five hours instead of eight, proportionate with depth of your well, as the weight of fluid in tubing is eliminated.

. . . by your using

GRAY Oil Pump

Designed without Standing Valve.

"GRAY for Fine Tools"

GRAY TOOL COMPANY

HOUSTON, TEXAS.

COMPLETIONS

(Continued from page 64)

Company, Well and Location	Initial Production Bbls.	Depth
Holbrook & Wodd, K. & K. (Deep) 1	*	1826
Magnolia Pet. Co., Hester Watkins 12	*	1980
O'Donohoe & Gates 1, W. L. Hodges 1	*	1894
Shappell Oil Co., K. & K. 12	15	1634
MONTAGUE COUNTY—		
Oil Operators Trust, Bouldin 2	30	820
THROCKMORTON COUNTY—		
Falls Prod. Co., Graham 4	20	1820
WILBARGER COUNTY—		
Petroleum Prod. Co., Waggoner 2-A	210	2405
Phillips Pet. Co., Waggoner 15-A	15	2195
Waggoner 3-MM	80	2326
Roxana Pet. Corp., Waggoner 4-D	90	2583
Simms Oil Co., Showers 1	*	2503
Waggoner Ref. Co., Waggoner 4-C	40	2405
YOUNG COUNTY—		
Amerada Pet. Corp., Johnson 1	*	635
Four Oil Co., McGaghren 3	*	1145
Rannell Oil Co., Jack 2-C	95	557
Paull Oil Co., Morrison 7	*	2251
WEST TEXAS		....
HOWARD COUNTY—		
Magnolia Pet. Co., Dora Roberts 6	145	1326
Sarah Hyman 4	22	1618
UPTON COUNTY—		
Orient Oil Operating Co., Orient RR. Fee 2	200	2040
WINKLER COUNTY—		
Atlantic Oil Prod. Co., Grisham-Hunter 1-E	5350	2793

PERMITS

(Continued from page 59)

89, B B2, H&GN sur, 1320 ft e of No. 1; 4, 660 ft e of No. 1. Roxana, South Bend, Worley 3, S 39, B 3, I&GN sur, 990 ft from w and 330 ft from n line. Viola Oil Co., Pampa, Saunders 1, S 13, B A6, H&GN sur, 330 ft from s and w lines. Purple Sage Oil Co., Denver, Colo., Johnson 2, S 1, GC&SF sur, 330 ft from s and e lines.

HUTCHINSON COUNTY—Phillips Pet. Corp., Bartlesville, Okla., Hamilton 1, S 22, B 47, H&TC sur, 382 ft from w and 578 ft from s line. Holmes Oil Co., Amarillo, Quinn 1, S 9, B 3, BS&F sur, 330 ft from s and w lines.

HARRIS COUNTY—Cypress Oil Co., Houston, Kitzman 1, S 1, HT&B sur, 200 ft s of center of n line. Ferdinand Heine, Lancaster, Pa., Warren 1, T. Coghill sur, 100 ft w of center of e line.

HARRISON COUNTY—Tylong O. & G. Co., Inc., Shreveport, La., Armstrong 1, S. Holloway sur, 1000 ft from s and e lines.

HARDIN COUNTY—East Batson Oil Co., Batson, Green 10, 185 ft from n and 34 ft from e line. Guedry Drilling Pool, Hull, Guedry 1, S 130, BBB&C sur, 165 ft from e and -50 ft from s line.

HOWARD COUNTY—F H E Oil Co. & Flemming & Kimbell, Sherman, Roberts 2B, S 137, B 29, W&NW sur, 330 ft from s and 990 ft from e line.

JIM HOGG COUNTY—Magnolia, Dallas, Merchants Bank 34, S 415, F. M. Brister sur, 400 ft s of No. 29.

JEFFERSON COUNTY—Trader's Oil Corp., Beaumont, East 1, J. A. Veatch sur. Sun Oil Co., Beaumont, McLean 20, P. Humphrey sur, 30 ft from n and 80 ft from w line; 21, 100 ft se of No. 1.

JACK COUNTY—Tedspan O. & G. Co., Wichita Falls, Richards 5, B 4, BBB&C sur, 135 ft from e and 230 ft from s line. O. F. Whitaker, Jacksboro, Roach 3, Berryman sur, 300 ft e of No. 1.

KLEBERG COUNTY—Humble O. & R. Co., Houston, Dennett 3, S 38, B 19, KT&I sur, 690 ft from n and 150 ft from w line; Kleberg 6, S 30, B 1, KT&I sur, 450 ft from n and 150 ft from e line.

LIMESTONE COUNTY—J. H. McCarty,

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Arriving in Chicago, you are within convenient distance of this famous hotel, which is in the central business section, less than one block from State Street, the great shopping thoroughfare, and close to the theatre, financial and wholesale districts. The Field Museum Art Institute and Soldier Field Stadium are within easy walking distance.

As a Great Northern guest you can enjoy every convenience and real solid comfort without extravagance.

400 *Large Bright Livable Rooms, $2.50 a day and up.* For two persons in any room the additional cost is only $1 a day. No extra charge over main restaurant prices for meals sent to guest rooms. Garage near. Tourists' cars delivered without service charge.

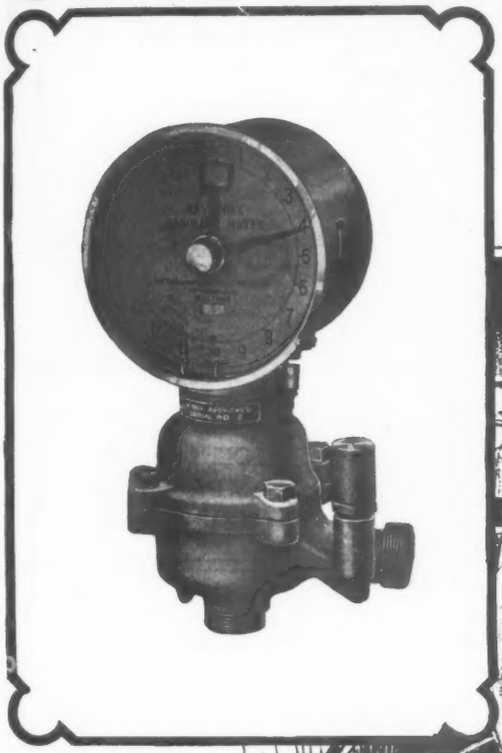
GREAT NORTHERN HOTEL

Chicago

Dearborn Street
From Jackson to Quincy

KEYSTONE GASOLINE METERS

FOR FILLING STATIONS



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THE Keystone Gasoline Meter for Service Stations has been giving a maximum of efficiency for over a period of more than 15 years. With these meters it is not necessary to make your customers wait until the gasoline is "hand-pumped" to a cylinder and then drained into the automobile tank. The meter allows instantaneous flow into the tank and registers accurately every gallon of gasoline dispensed.

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Operators usually can arrange a Tret-O-LitE plant, using equipment already on the lease. No heavy initial investment—no expensive equipment to stand idle when need for large treating capacity has passed.

The Tret-O-litE method is the fast, economical and THOROUGH method of recovering oil from emulsions.

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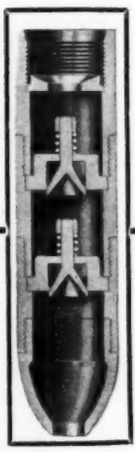
St. Louis, Mo.

Tret-O-litE



–Just as Many Valves

–as You WANT In This Set Shoe

Sectional assembly enables you to use just what your well requires to prevent sanding up. Each section seats the firmer under pressure, because of "coned" valves.

Write for full description

Howard Smith Co.
2412 Railroad at Sawyer St.
Houston, Texas

Groesbeck, Brown 1, W. Jackson sur, 200 ft from e and 450 ft from s line.

LIBERTY COUNTY—Texas Co., Houston, Staiti 8, M. G. White sur, 50 ft from n and 2270 ft from e line. Sun Oil Co., Beaumont, Mitchell 1, M. G. White sur, 50 ft from s and e lines.

MONTAGUE COUNTY—Roy I. Carter, Wichita Falls, Cunningham 1, J. N. Hodges sur, 150 ft from n and w lines. Atlantic Oil Prod. Co., Dallas, Jones 1, Donohoo sur, 150 ft from n and e lines. Roy I. Carter, Wichita Falls, Bouldin 1, C. Chacon sur, 150 ft from e and e lines. Arco Oil Co., Wichita Falls, Loy 3, W. Donohoo sur, 150 ft from s and e lines. Texas Co., Wichita Falls, Hinton 3, A. Coats sur, 150 ft from n and w lines.

MOTLEY COUNTY—Matador Oil Corp., Amarillo, Bird 1, S 4, J. H. Stephens sur, 330 ft from s and w lines.

MILAM COUNTY—Coffield & Hale, Rockdale, Isaacs 2, 600 ft from n and 850 ft from e line. W. A. Jones, Minerva, Smith 3, T. J. Chambers sur, 150 ft from s and e lines.

NAVARRO COUNTY—E. L. Chapman, Ft. Worth, Hamilton 1, J. Rahm sur, 150 ft from e and 450 ft from s line.

PANOLA COUNTY—Harry Hines, Wichita Falls, Baker 1, G. Goodwin sur, 450 ft from w and 990 ft from n line.

PECOS COUNTY—Mid-Kansas O. & G. Co., Wichita Falls, Yates 16, S 31, B 194, GC&SF sur; Smith 11, S 33, B 194, GC&SF sur, 586 ft from n and 250 ft from w line; 12, 1086 ft from n and 250 ft from w line.

SHACKELFORD COUNTY—T. K. Simmons, Tulsa, Okla., Harvey 3, S 5, B 14, T&P sur, 200 ft from n and e lines. Montgomery, Rea & Montgomery, Sedwick, Morris 3, S 70, LAL sur, North of No. 2. L. B. Tannehill, Albany, Matthews 1, S 34, ET Ry sur, 150 ft from s and e lines. Loggie & Arendt Oil Co., Albany, Blach 1A, 506 TE&L sur, 150 ft from s and w lines. Mr. McBest, Albany, Gordon 1, S 5, LAL sur, 1000 ft from n and 260 ft from w line. Texas Consolidated Oil Co., Wichita Falls, Isabell B5, TE&L sur, 300 ft s of No. 4.

STEPHENS COUNTY—Hooker & Clark, Breckenridge, McNabb 2, S 67, B 4, T&P sur, 250 ft from s and w lines. J. L. Thompson, Ranger, Cook 1, S 45, B 6, T&P sur, 400 ft from n and 800 ft from e line.

WICHITA COUNTY—Riner & Omohundro, Wichita Falls, Overby 5, H. B. Balch sur, 686 ft e of No. 2. J. W. Duncan, Wichita Falls, Jackson 4, B 3, DCSL sur, 150 ft from n and e lines. Hammon & Garrett, Wichita Falls, Texas 1, Wichita River Bed; 2. Hamer & Jennings et al, Wichita Falls, Burnett 1, S 9, HT&B sur, 150 ft from s and w lines. E. L. Lewis, Wichita Falls, Fairchild 1, B 297, Waggoner Col. sur, 2115 ft from w and 2134 ft from s line.

WILBARGER COUNTY—Barkley & Meadows, Wichita Falls, Waggoner 2A, S 34, B 4, H&TC sur, 400 ft n of No. 1-A. Texas Co., Wichita Falls, Castlebury B3, S 66, B 14, H&TC sur, 1550 ft from n and 1350 tf from e line. Waggoner Ref. Co., Electra, Waggoner 1, S 25, B 4, H&TC sur, 200 ft from s and e lines; 2. 200 ft from s and w lines.

WINKLER COUNTY—Roxana Pet. Corp., South Bend, Hendricks E1, S 40, B B5, School sur, 330 ft from n and w lines; Hendricks D3, S 41, 330 ft from s and e lines. Atlantic Oil Prod. Co., Dallas, Hendricks F3, sec 40, blk B25, School sur, 330 ft from n and 1650 ft from w line. Southern Crude Oil Purchasing Co., Shreveport, La., Hendricks B2, sec 33, blk 26, School sur, 990 ft from s and w lines. Gulf, Fort Worth, Hendricks A11, sec 34, blk B5, School sur, 660 ft n of 8; A12, same sur, 660 ft s of 6. Humble, Wichita Falls, Hendricks 6, sec 41, blk B5, School sur, 330 ft from s and e lines.

WHARTON COUNTY—Weed-Gayle Oil Co., Beaumont, Bay 14, S. F. Austin sur, 50 ft from nw and 610 ft from sw line; Bay 12, same sur, 215 ft from sw and 965 ft from nw line. R. E. Brooks, Jr., Houston, Kostelnik 2, S. F. Austin sur, s central; Abendroth 3, same sur, 100 ft se of 1.

WISE COUNTY—Jetter & Hall, Wichita Falls, Rogers 1, blk 17, HCSL 3 sur, 330 ft from nw and 660 ft from ne line.

YOUNG COUNTY—C. C. Williams, Jean, Casey 1, 1486 TE&L sur, ne cor. Rannell Oil Co., Oklahoma City, Jack 2C, sec 23, blk 23, YCSL sur, 150 ft from w and 450 ft from s line. A. W. Johnson, Graham, Garvey 1, 1857 TE&L sur, 150 ft from n and w lines.

C. W. WEBSTER
West Texas Oil and Gas Leases
ROYALTIES
15 Years in Texas
Reference: Mercantile Agencies
Petroleum Building
FORT WORTH, TEXAS

HEYDRICK'S NEW MAPS
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County Maps
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HEYDRICK MAPPING COMPANY
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Patents Obtained, Trade Marks, Patent Causes
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Formerly Assistant Examiner United States Patent Office
Andrews, Streetman, Logue & Mobley
12th Floor Union N. Bk., Houston, Tex.

PHILLIP MAVERICK
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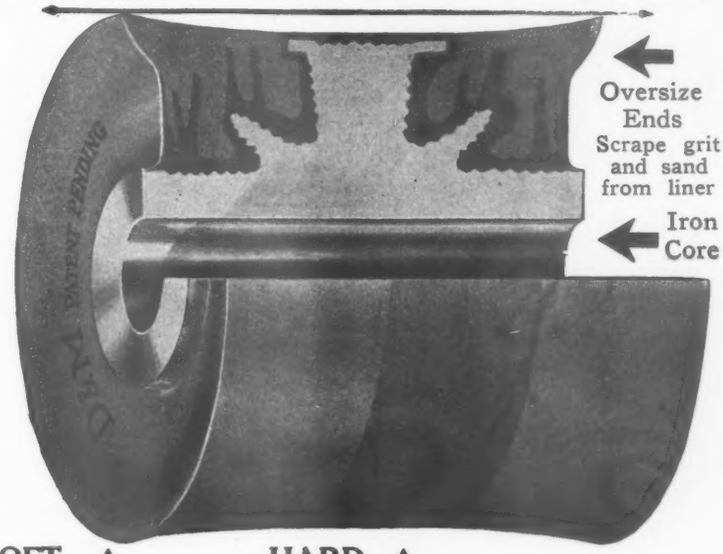

Oversize Ends Scrape grit and sand from liner

Iron Core

Let Us Prove it to You With One Installation.

SOFT RUBBER ↑ HARD RUBBER ↑

MID-CONTINENT DISTRIBUTORS:

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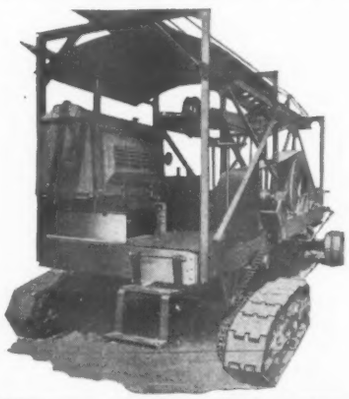
803 FRANKLIN AVE. Phones—Preston 4000-7210 HOUSTON, TEXAS

Manufactured by: D. & M. Machine Works, Lomita, Cal. Foreign Distributors: Oil Well Supply Co.

UNITED SPARTA DRILLING MACHINE



Easily Operated

WHILE moving the machine on the road or from one location to another, the driller stands on a platform at the rear of machine, beside the engine, where he has control of the steering wheel, twin disc clutch and the engine throttle. The tractor drive has two speeds and is through hardened steel roller chain running on cut steel sprockets to counter shaft and through pinion and gear to differential shaft—and through sprocket and chains to caterpillar tread.

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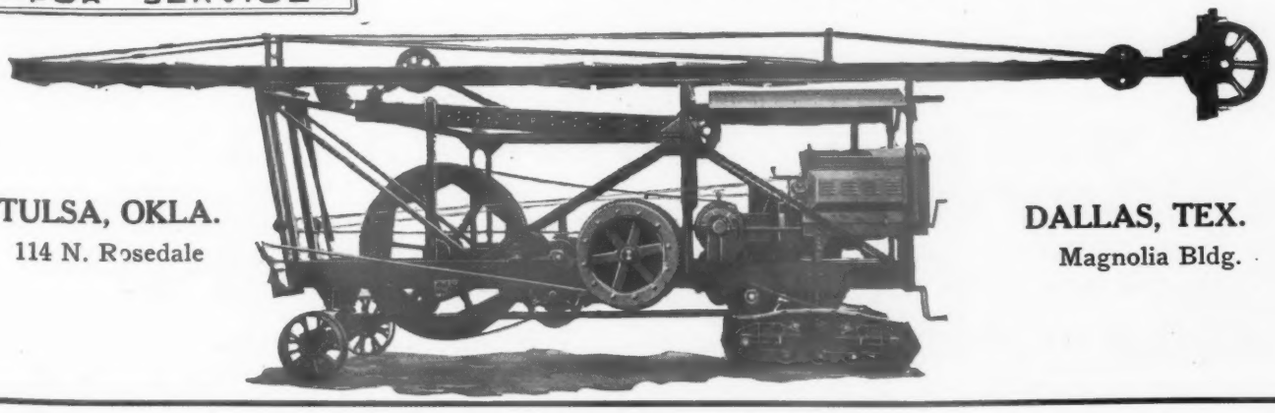
UNITED IRON WORKS, Inc.

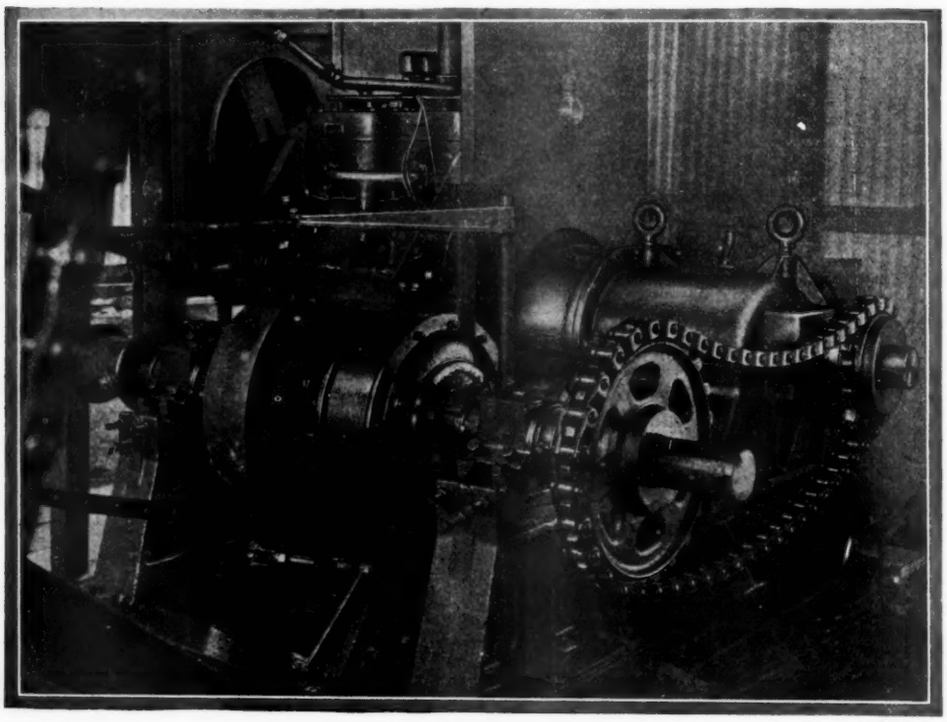
KANSAS CITY, MO.



TULSA, OKLA.
114 N. Rosedale

DALLAS, TEX.
Magnolia Bldg.

Waukesha Direct-Connected Herringbone Reduction Gear



p-803-L

Now in Production

After months of strenuous testing in the field, the Waukesha Motor Company presents through its Oil Field Representatives a rugged, accessible, quiet, Herringbone Reduction Gear Unit direct connected to their heavy-duty Oil Field Power Units. As shown above, it is connected to a 2500-foot type Portable Rotary Rig operating in Louisiana.

Waukesha "Ricardo Head" Oil Field Power Units may be obtained in various powers from 40 to 125 H.P. They meet all requirements found in drilling with either cable or rotary tools. They are used to drive oil, water and mud pumps and air compressors for "Gas Lift" installations. To better adapt these engines to the needs of drilling contractors this new Herringbone Reduction Gear has been designed and tried out thoroughly in the field. Complete information regarding this unit may be obtained by writing for Bulletin 656.

P-809-L

OIL INDUSTRY EQUIPMENT DIVISION

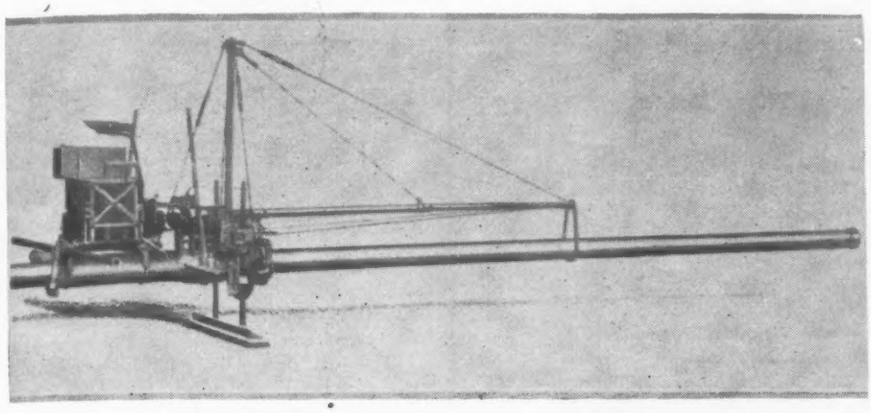
WAUKESHA MOTOR COMPANY

Waukesha Wisconsin

New York	Tulsa	Houston	San Francisco
8 W. 40th St.	C. F. Camp Co.	Portable Rotary Rig Co.	C. A. Watts

Exclusive Builders of Heavy Duty Gasoline Engines for Over Twenty Years

NEW EQUIPMENT, CATALOGS, BULLETINS, BOOKS



MAHONEY PIPE LAYING MACHINE

Light Model Pipe Machine

CALIFORNIA PIPE LINE MACHINE COMPANY

The California Pipe Line Machine Company, 2710 East 14th Street, Kansas City, Missouri, announces a new light model pipe laying machine.

This machine weighs less than 1000 pounds according to the manufacturer and will travel on the pipe line without sagging or bending a four-inch pipe. It is equipped with an engine capable of developing 20 horse power.

The machine can be put into a light truck and moved from place to place as the occasion demands. It is claimed that a crew of eight or 10 men operating one of the machines can lay a mile or more of pipe per day.

Additional information can be had from the company, on request.

LeBus Rotary Overshot

LeBUS ROTARY TOOL WORKS

LeBus Rotary Tool Works, Electra, Texas, is putting on the market a new overshot for fishing plain pipe, tool joints or collars.

The overshot is made of all forged steel with scientifically heat treated slips. The slips are threaded left hand and operate on two keys, one at either side.

The slips take hold on the keys at any position.

The packing off ring is made to prevent the collar or tool joint from passing through the slips, so that when a release is to be made the slips do not have to come over the bottom shoulder of the collar or tool joint, but have only to travel back over the body of the collar or tool joint. This is done by rotating slowly to the right and taking an easy one-fourth inch strain to each revolution to the right with the overshot.

Rotating to the right to force over the fish does not affect the future operation of the slips as explained above. A shut-off for circulation is effected by letting the weight off the overshot and the pipe down on the collar or tool joint. A seat is made on the top of the collar or tool joint, and also between the packing ring and the sleeve spring protector which extends down on the head.

For running on cable tools any size sub for any tool can be furnished at the minimum sub prices.

More information can be had on request to the company.

Light Duty Field Crane

BUCKEYE TRACTION DITCHER COMPANY

Model "O" Buckeye is a light-weight, fast-working crane developed for oil field work, and being marketed by the Buckeye Traction Ditcher Company, of Findlay, Ohio.

This crane can be used as a trench backfiller, or for any service within the limits of a light duty hoisting apparatus.

A feature of this equipment is its quick and convenient control. All controls are within easy reach of the operator who always faces the work.

Model "O" travels and is easily controlled with the boom rotated in any direction. Pipe-line contractors find this feature of great assistance in lifting and handling welded pipe sections.

Complete information may be secured by writing the manufacturer.

Buda Oil Field Power

THE BUDA COMPANY

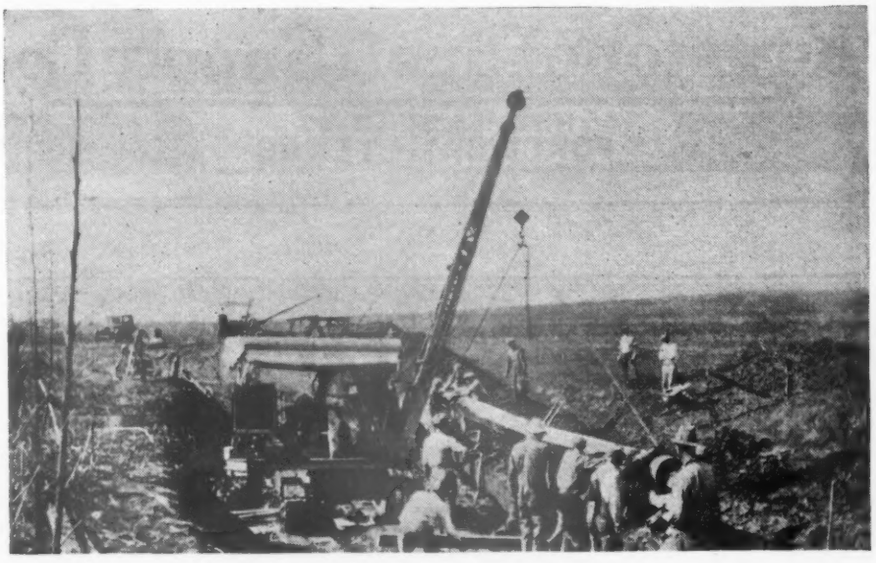
The new Buda oil field power for operating compressors, made by The Buda Company, Harvey, Illinois, was design and built especially for oil field service.

Equipment furnished includes the engine with governor, gasoline carburetor and gas mixing valve, large capacity vacuum tank, high tension magneto with impulse starting coupling, spark plugs and wires, oil pressure gauge, large oil field radiator, fan and belt, clutch power take-off, combination compressor drive pulley and compressor, circulating water pump drive pulley, and a structural steel base.

The engine is of teh six-cylinder cylinders vertical in pairs, "L" head, four cycle. Cylinder bore is six inches with a seven and one-fourth inch stroke.

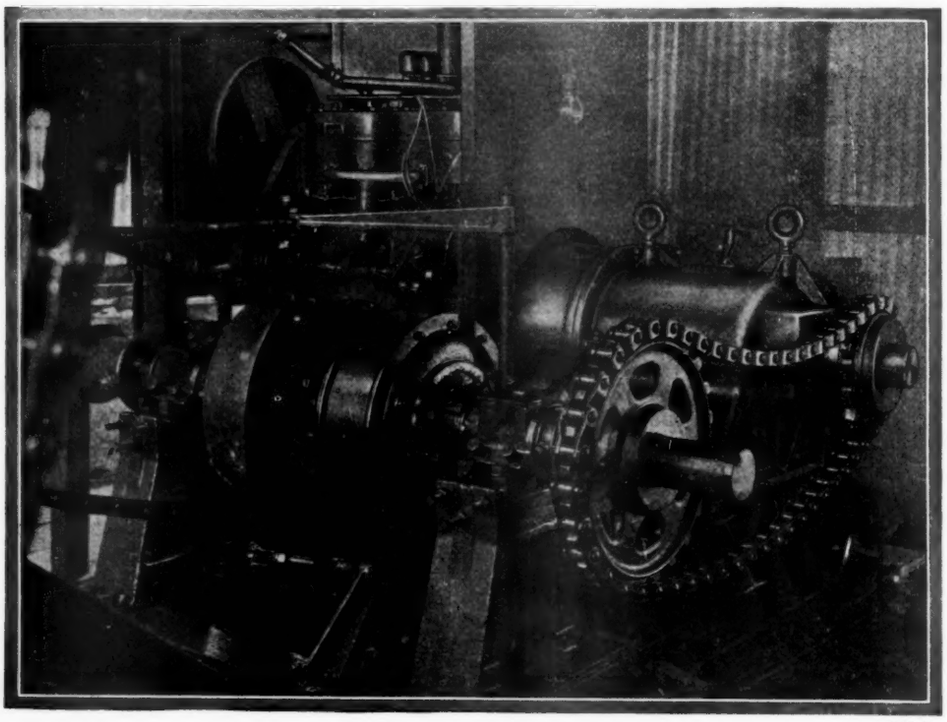
The engine rating on gasoline is from 75 to 150 horsepower. The load must not exceed 75 per cent of the power shown on the curve at any given speed. The engine is designed to produce rated power on either gasoline or natural gas. Deduct 15 per cent when operating on natural gas.

Lubrication is by force feed pressure to all crankshaft, camshaft and connecting rod bearings, through a



BUCKEYE MODEL O CRANE

Waukesha Direct-Connected Herringbone Reduction Gear



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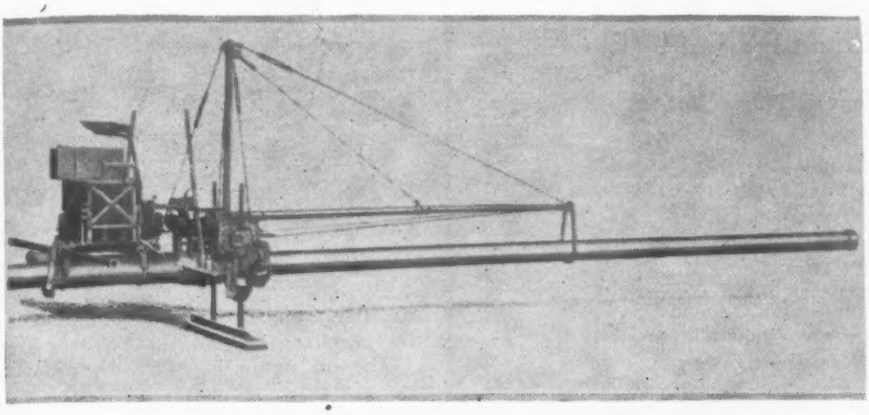

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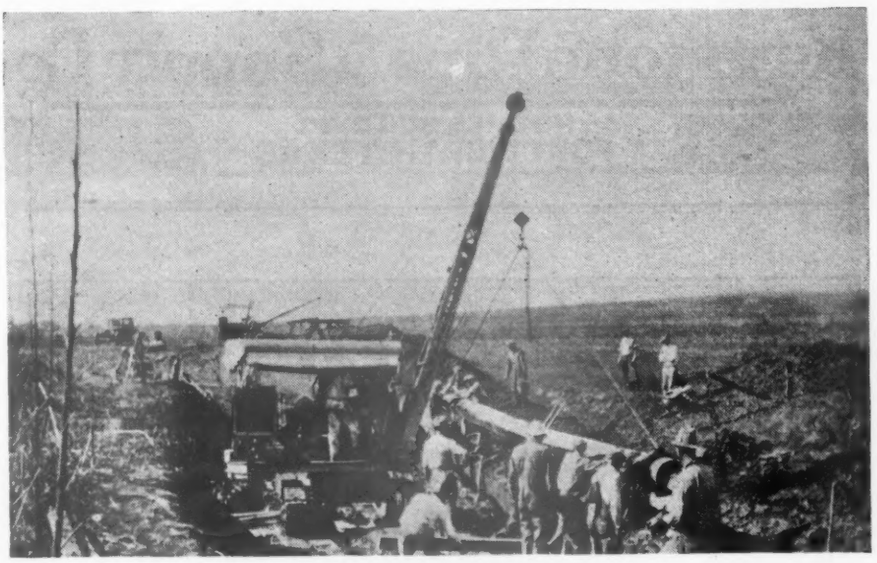

BUCKEYE MODEL O CRANE

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Manufacturers of

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1—35 H P used Oil Engine	Used Casing 4¾" to 15½" Inc.
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We buy abandoned pipe lines and oil wells. If you have any to sell, communicate with us before you dispose of them.

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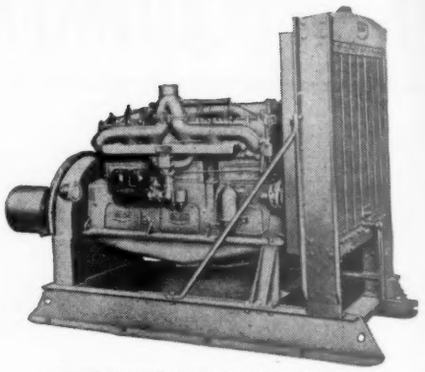


NEW BUDA OIL FIELD POWER

seamless steel distributing pipe cast in the crankcase.

The oil pump is gear driven from the camshaft. Regulation is by an adjustable spring relief valve.

Capacity of the oil pan is 22 quarts.

A centrifugal pump circulates water through the radiator. The radiator is extra large with sectional tubular core. Sections are easily detached. A large eight-blade fan used in conjunction with the radiator is driven by a heavy belt from the crankshaft pulley.

Bearings are removable, bronze shell, babbitt lined.

Crankshaft bearings have the following diameters and lengths: Front, three and one-half by four and three-fourths inches; second, three and one-half by four and five-sixteenths inches; third, three and one-half by four and five-sixteenths inches; and rear, three and one-half by four and three-fourths inches.

Camshaft bearings are all two and three-fourths inches in diameter by four and one-half inches in length.

Connecting rod bearings are three and one-half inches by three and five-sixteenths inches.

Piston pin bearings are two inches by two inches.

Gears are spiral cut toothed, face one and one-half inches.

The clutch is heavy duty twin disc with large shaft, single plate type.

Starting crank is 18-inch type with long handle.

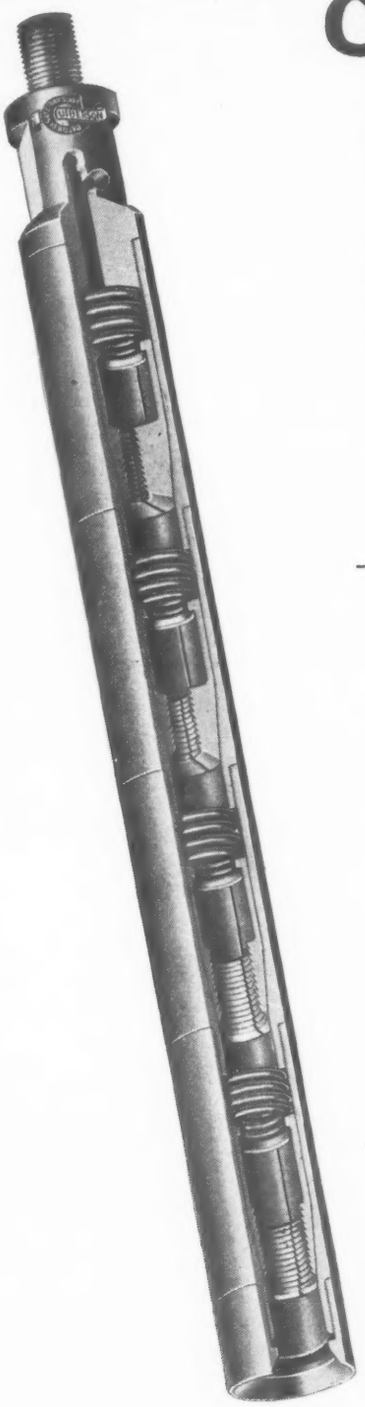
The governor is the Buda type with hand control for operating both throttle and governor.

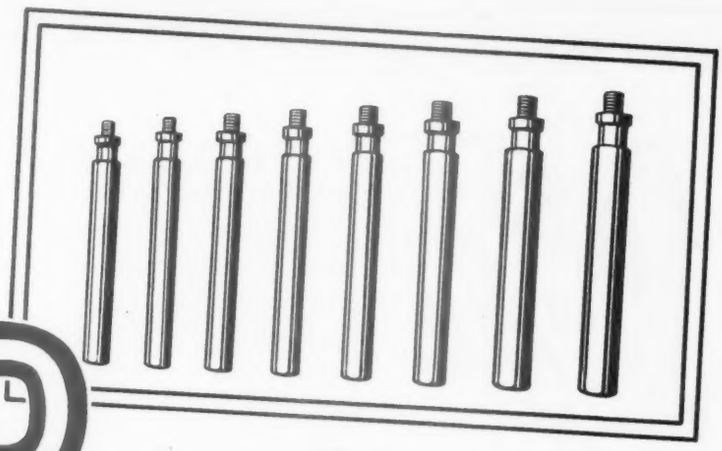
The crankshaft is of open hearth steel, is the high speed type and is counterbalanced.

Additional information will be provided upon request to the company, asking for bulletin 631.

Los Angeles. — The Youngstown Sheet and Tube Company announces that having purchased the entire capital stock of The Associated Supply Company, it is now the sole owner of the supply company. For the present the company will continue to operate however, under the name of The Associated Supply Company, with headquarters at 724 Pacific Electric Building, Los Angeles. Active management of the company will be under the direction of Bernard Dunn, vice-president.

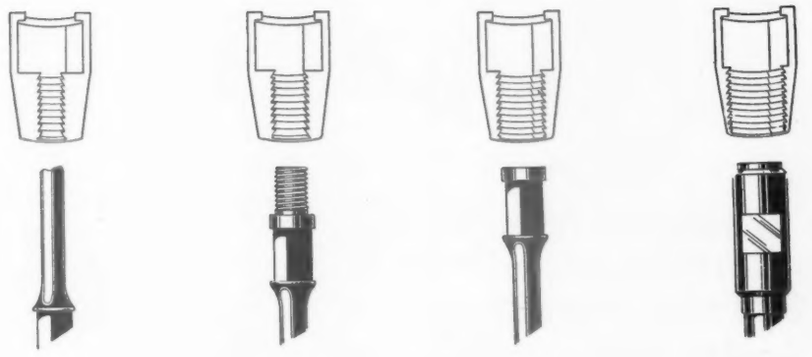
It's like running





8 sockets at the same time

Since the GUIBERSON Multiple Sucker Rod Socket has *four* sets of slips, each capable of catching *two* sizes of rods, it has the effect of 8 sockets in one. No matter what portion of the rod is presented, it automatically selects its complementary socket and is caught the first trip.



The GUIBERSON Multiple Sucker Rod Socket reduces fishing costs and lost production by reducing fishing time. No feeling around with wrong sized slips—no pulling to change sizes.
Easy to operate. Slips reasonable in price. All slips and shells interchangeable. Fully patented.

"Better Be Safe Than Sorry"

THE GUIBERSON CORPORATION

Box 1106, Dallas, Texas

California Branch: 1506 Santa Fe Ave., Los Angeles

402 W. First St., TULSA — 321 Osage St., PONCA CITY — 506 Trust Bldg., NEWARK, O.

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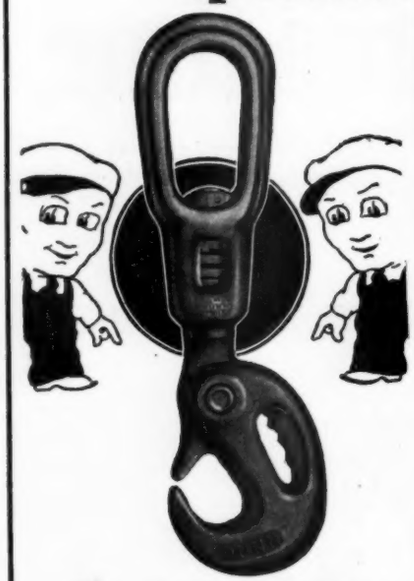
Say you saw it in The OIL WEEKLY

DUNN TOOLAGRAM

fast and safe in Operation



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SQUEAKS FROM THE BULL WHEEL

A motorist stopped change tires in a desolate region in the far west.

"I suppose," he remarked to a native onlooker, "that even in these parts of the country the bare necessities of life have risen tremendously in price?"

"You're right, stranger," replied the native gloomily, "and it ain't worth drinking when you get it."

A man called up and asked to be connected with the manager of the fishing tackle department. The girl answering the phone told him that the manager was not in, and then the usual:

"Can I take the message?"

"No, I just wanted to ask if he has got worms?"

"I have never heard him complain of any."

The strong man from Norway was booked on the Orpheum Circuit. His specialty was breaking paving stones with a sledge hammer on his wife's head. It was a wow, as we used to say in the old country. Suddenly his bookings were switched. They put him on the small time, where he had to do four and five shows a day.

He did it for several weeks, then canceled his contract. "What's the matter?" they asked him. "Is your wife getting headaches?"

"Oh, no, it isn't that," apologized the strong man, "but I'm afraid she's getting fallen arches."

"Yank that molar out, Doc."

"Will you have gas?"

"Yeah, an' you might look at the oil, too."

Publisher — Have you finished the book which tears down the reputation of George Washington?

Pen Pusher—Yeah.

All right; start in on one making a hero out of Jesse James.

"My daughter has fallen in love with the radio announcer at KXKZ."

"Is it serious?"

"It is. Her bill for applause telegrams this month was $49.80."

Did you really get a big raise?

Yeah! Half as much as the wife thought I ought to have!

Prospective Employer—How are you on spelling?

Prospective Stenographer—Well, I know how to spell the synonyms for the words I do not know how to spell.

"Understand she is going to Paris this summer for her clothes."

"Well, I wondered where she'd left them."

The doorkeeper pointed out a sign reading, "Guests must be dressed," meanwhile giving the gent the bum's rush.

"Dammit," he said, "can't cha read?"

"Cripes," twirps the guy, "who-the-hell's smokin'?"

The old swindler had been caught in the end, and now he sat in prison, making sacks.

The amiable visitor approached him and said:

"What are you doing, my man—sewing?"

"No," was the reply, "reaping."

The big man was telling the interviewer how he got started in his profession.

"When I was an infant, my good folks were undecided what I'd become when I grew up, and they struck on a plan. They fetched an apple, a prayer-book and a dollar bill. If I played with the apple, a farmer I'd be—if I'd play with the prayer-book, I'd be a parson—if I'd play with the dollar bill, I'd be a banker. They left me alone for a few minutes, and when they entered the room later I was eating the apple, readying the prayer-book, and I had put the dollar bill in my pocket—so that's how they made me a politician."

"I want you to make me the outfit for my trial."

"Let me see," mused the experienced modiste. "You'll want a direct-testimony suit, a cross-examination gown, and something dainty and clinging to faint in.

Pompously the traffic officer bore down upon her.

"Didn't you see me hold up my hand?" he shouted fiercely.

The culprit gasped a breathless "Yes."

"Didn't you know that when I held up my hand it meant Stop?"

"No sir; I'm just a school teacher," she said, in a timid, mouse-like voice, "and when you raised your hand like that I thought you wanted to ask a question."

"Willie, what happens to man who never thinks of his soul, but only of his body?"

"He gets fat."

But, dear if your income is not enough to support both of us in a home of our own, why couldn't we live with your parents a while?"

Well, but you see my folks are still living with their parents.

She was only a washwoman's daughter but she took me unaware.

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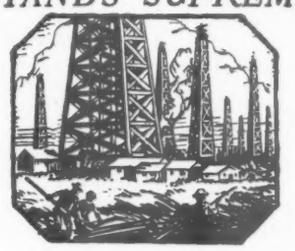

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